

CCTCTCTCCC	CTCATCTTTG	CCAACCTGCC	CCACCTCCTC	TGCAGCTGAG	CGATAACCCT
		30			60
TGGGCCGACA	GTGCCCTAAT	CTCCTCCCTC	CTGGCTTCTC	GACCGACCCT	TCACCCTTTC
		90			120
CCTTTCTTTC	TCCCAGCAGA	CGCCGCCTGC	CCTGCAGCCA	TGAGGCCCCC	GCAGTGTCTG
		150			180
CTGCACACGC	CTTCCCTGGC	TTCCCCACTC	CTTCTCCTCC	TCCTCTGGCT	CCTGGGTGGA
		210			240
GGAGTGGGGG	CTGAGGGCCG	GGAGGATGCA	GAGCTGCTGG	TGACGGTGCG	TGGGGGCCGG
		270			300
CTGCGGGGCA	TTCGCCTGAA	GACCCCCGGG	GGCCCTGTCT	CTGCTTTCCT	GGGCATCCCC
		330			360
TTTGCGGAGC	CACCCATGGG	ACCCCGTCGC	TTTCTGCCAC	CGGAGCCCAA	GCAGCCTTGG
		390			420
TCAGGGGTGG	TAGACGCTAC	AACCTTCCAG	AGTGTCTGCT	ACCAATATGT	GGACACCCTA
		450			480
TACCCAGGTT	TTGAGGGCAC	CGAGATGTGG	AACCCCAACC	GTGAGCTGAG	CGAGGACTGC
		510			540
CTGTACCTCA	ACGTGTGGAC	ACCATACCCC	CGGCCTACAT	CCCCACCCC	TGTCCTCGTC
		570			600
TGGATCTATG	GGGGTGGCTT	CTACAGTGGG	GCCTCCTCCT	TGGACGTGTA	CGATGGCCGC
		630			660
TTCTTGGTAC	AGGCCGAGAG	GA CTGTGCTG	GTGTCCATGA	ACTACCGGGT	GGGAGCCTTT
		690			720
GGCTTCCTGG	CCCTGCCGGG	GAGCCGAGAG	GCCCCGGGCA	ATGTGGGTCT	CCTGGATCAG
		750			780
AGGCTGGCCC	TGCAGTGGGT	GCAGGAGAAC	GTGGCAGCCT	TCGGGGGTGA	CCCGACATCA
		810			840
GTGACGCTGT	TTGGGGAGAG	CGCGGGAGCC	GCCTCGGTGG	GCATGCACCT	GCTGTCCCCG
		870			900
CCCAGCCGGG	GCCTGTTCCA	CAGGGCCGTG	CTGCAGAGCG	GTGCCCCCAA	TGGACCCTGG
		930			960
GCCACGGTGG	GCATGGGAGA	GGCCCGTCGC	AGGGCCACGC	AGCTGGCCCA	CCTTGTGGGC
		990			1020

Fig-1a-1

1050	1080
TGTCCTCCAG GCGGCACTGG TGGGAATGAC ACAGAGCTGG TAGCCTGCCT TCGGACACGA	
1110	1140
CCAGCGCAGG TCCTGGTGAA CCACGAATGG CACGTGCTGC CTCAAGAAAG CGTCTTCCGG	
1170	1200
TTCTCCTTCG TGCCTGTGGT AGATGGAGAC TTCCTCAGTG ACACCCCAGA GGCCCTCATC	
1230	1260
AACGCGGGAG ACTTCCACGG CCTGCAGGTG CTGGTGGGTG TGGTGAAGGA TGAGGGGCTCG	
1290	1320
TATTTTCTGG TTTACGGGGC CCCAGGCTTC AGCAAAGACA ACGAGTCTCT CATCAGCCGG	
1350	1380
GCCGAGTTCC TGGCCGGGGT GCGGGTCGGG GTTCCCCAGG TAAGTGACCT GGCAGCCGAG	
1410	1440
GCTGTGGTCC TGCATTACAC AGACTGGCTG CATCCCGAGG ACCCGGCACG CCTGAGGGAG	
1470	1500
GCCCTGAGCG ATGTGGTGGG CGACCACAAT GTCGTGTGCC CCGTGGCCCA GCTGGCTGGG	
1530	1560
CGACTGGCTG CCCAGGGTGC CCGGGTCTAC GCCTACGTCT TTGAACACCG TGCTTCCACG	
1590	1620
CTCTCCTGGC CCCTGTGGAT GGGGGTGCCC CACGGCTACG AGATCGAGTT CATCTTTGGG	
1650	1680
ATCCCCCTGG ACCCCTCTCG AAACCTACAG GCAGAGGAGA AAATCTTCGC CCAGCGACTG	
1710	1740
ATGCGATACT GGGCCAACTT TGCCCGCACA GGGGATCCCA ATGAGCCCCG AGACCCCAAG	
1770	1800
GCCCCACAAT GGCCCCCGTA CACGGCGGGG GCTCAGCAGT ACGTTAGTCT GGACCTGCGG	
1830	1860
CCGCTGGAGG TCGGCGGGG GCTGCGCGCC CAGGCCTGCG CCTTCTGGAA CCGCTTCCTC	
1890	1920
CCCAAATTGC TCAGCGCCAC CGACACGCTC GACGAGGCGG AGCGCCAGTG GAAGGCCGAG	
1950	1980
TTCCACCGCT GGAGCTCCTA CATGGTGCAC TGGAAGAACC AGTTCGACCA CTACAGCAAG	
2010	2040
CAGGATCGCT GCTCAGACCT GTGACCCCGG CGGGACCCCC ATGTCCTCCG CTCCGCCCGG	

Fig-1a-2

2070 2100  
CCCCCTAGCT GTATATACTA TTTATTTCAG GGCTGGGCTA TAACACAGAC GAGCCCCAGA  
2130 2160  
CTCTGCCCCAT CCCACCCCCA CCCCACGTC CCCCAGGGGCT CCCGGTCCTC TGGCATGTCT  
2190 2220  
TCAGGCTGAG CTCCTCCCCG CGTGCCTTCG CCCTCTGGCT GCAAATAAAC TGTTACAGGC  
2250  
CAAAAAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAA

Fig-1a-3

M	R	P	P	Q	C	L	L	H	T	P	S	L	A	S	P	L	L	L	20
L	L	W	L	L	G	G	G	V	G	A	E	G	R	E	D	A	E	L	40
V	T	V	R	G	G	R	L	R	G	I	R	L	K	T	P	G	G	P	60
S	A	F	L	G	I	P	F	A	E	P	P	M	G	P	R	R	F	L	80
P	E	P	K	Q	P	W	S	G	V	V	D	A	T	T	F	Q	S	V	100
Y	Q	Y	V	D	T	L	Y	P	G	F	E	G	T	E	M	W	N	P	120
R	E	L	S	E	D	C	L	Y	L	N	V	W	T	P	Y	P	R	P	140
S	P	T	P	V	L	V	W	I	Y	G	G	G	F	Y	S	G	A	S	160
L	D	V	Y	D	G	R	F	L	V	Q	A	E	R	T	V	L	V	S	180
N	Y	R	V	G	A	F	G	F	L	A	L	P	G	S	R	E	A	P	200
N	V	G	L	L	D	Q	R	L	A	L	Q	W	V	Q	E	N	V	A	220
F	G	G	D	P	T	S	V	T	L	F	G	E	S	A	G	A	A	S	240
G	M	H	L	L	S	P	P	S	R	G	L	F	H	R	A	V	L	Q	260
G	A	P	N	G	P	W	A	T	V	G	M	G	E	A	R	R	R	A	280
Q	L	A	H	L	V	G	C	P	P	G	G	T	G	G	N	D	T	E	300
V	A	C	L	R	T	R	P	A	Q	V	L	V	N	H	E	W	H	V	320
P	Q	E	S	V	F	R	F	S	F	V	P	V	V	D	G	D	F	L	340

Fig-1b-1

D T P E A L I N A G D F H G L Q V L V 360  
 G  
 V V K D E G S Y F L V Y G A P G F S K 380  
 D  
 N E S L I S R A E F L A G V R V G V P 400  
 Q  
 V S D L A A E A V V L H Y T D W L H P 420  
 E  
 D P A R L R E A L S D V V G D H N V V 440  
 C  
 P V A Q L A G R L A A Q G A R V Y A Y 460  
 V  
 F E H R A S T L S W P L W M G V P H G 480  
 Y  
 E I E F I F G I P L D P S R N Y T A E 500  
 E  
 K I F A Q R L M R Y W A N F A R T G D 520  
 P  
 N E P R D P K A P Q W P P Y T A G A Q 540  
 Q  
 Y V S L D L R P L E V R R G L R A Q A 560  
 C  
 A F W N R F L P K L L S A T D T L D E 580  
 A  
 E R Q W K A E F H R W S S Y M V H W K 600  
 N  
 Q F D H Y S K Q D R C S D Y L

Fig-1b-2

CCT CTC TCC CCT CAT CTT TGC CAA CCT GCC	
CCA CCT CCT CTG CAG CTG AGC GAT AAC CCT	60
TGG GCC GAC AGT GCC CTA ATC TCC TCC CTC	
CTG GCT TCT CGA CCG ACC CTT CAC CCT TTC	120
CCT TTC TTT CTC CCA GCA GAC GCC GCC TGC	
CCT GCA GCC <u>ATG</u> AGG CCC CCG CAG TGT CTG	180
<u>M</u> R P P Q C L	
CTG CAC ACG CCT TCC CTG GCT TCC CCA CTC	
L H T P S L A S P L	
CTT CTC CTC CTC CTC TGG CTC CTG GGT GGA	240
L L L L L W L L G G	
GGA GTG GGG GCT GAG GGC CGG GAG GAT GCA	
G V G A E G R E D A	
GAG CTG CTG GTG ACG GTG CGT GGG GGC CGG	300
E L L V T V R G G R	
CTG CGG GGC ATT CGC CTG AAG ACC CCC GGG	
L R G I R L K T P G	
GGC CCT GTC TCT GCT TTC CTG GGC ATC CCC	360
G P V S A F L G I P	
TTT GCG GAG CCA CCC ATG GGA CCC CGT CGC	
F A E P P M G P R R	
TTT CTG CCA CCG GAG CCC AAG CAG CCT TGG	420
F L P P E P K Q P W	
TCA GGG GTG GTA GAC GCT ACA ACC TTC CAG	
S G V V D A T T F Q	
AGT GTC TGC TAC CAA TAT GTG GAC ACC CTA	480
S V C Y Q Y V D T L	
TAC CCA GGT TTT GAG GGC ACC GAG ATG TGG	
Y P G F E G T E M W	
AAC CCC AAC CGT GAG CTG AGC GAG GAC TGC	540
N P N R E L S E D C	
CTG TAC CTC AAC GTG TGG ACA CCA TAC CCC	
L Y L N V W T P Y P	
CGG CCT ACA TCC CCC ACC CCT GTC CTC GTC	600
R P T S P T P V L V	

Fig-1c-1

TGG ATC TAT GGG GGT GGC TTC TAC AGT GGG	
W I Y G G G F Y S G	
GCC TCC TCC TTG GAC GTG TAC GAT GGC CGC	660
A S S L D V Y D G R	
TTC TTG GTA CAG GCC GAG AGG ACT GTG CTG	
F L V Q A E R T V L	
GTG TCC ATG AAC TAC CGG GTG GGA GCC TTT	720
V S M N Y R V G A F	
GGC TTC CTG GCC CTG CCG GGG AGC CGA GAG	
G F L A L P G S R E	
GCC CCG GGC AAT GTG GGT CTC CTG GAT CAG	780
A P G N V G L L D Q	
AGG CTG GCC CTG CAG TGG GTG CAG GAG AAC	
R L A L Q W V Q E N	
GTG GCA GCC TTC GGG GGT GAC CCG ACA TCA	840
V A A F G G D P T S	
GTG ACG CTG TTT GGG GAG AGC GCG GGA GCC	
V T L F G E S A G A	
GCC TCG GTG GGC ATG CAC CTG CTG TCC CCG	900
A S V G M H L L S P	
CCC AGC CGG GGC CTG TTC CAC AGG GCC GTG	
P S R G L F H R A V	
CTG CAG AGC GGT GCC CCC AAT GGA CCC TGG	960
L Q S G A P N G P W	
GCC ACG GTG GGC ATG GGA GAG GCC CGT CGC	
A T V G M G E A R R	
AGG GCC ACG CAG CTG GCC CAC CTT GTG GGC	1020
R A T Q L A H L V G	
TGT CCT CCA GGC GGC ACT GGT GGG AAT GAC	
C P P G G T G G N D	
ACA GAG CTG GTA GCC TGC CTT CGG ACA CGA	1080
T E L V A C L R T R	
CCA GCG CAG GTC CTG GTG AAC CAC GAA TGG	
P A Q V L V N H E W	
CAC GTG CTG CCT CAA GAA AGC GTC TTC CGG	1140
H V L P Q E S V F R	

Fig-1c-2

TTC	TCC	TTC	GTG	CCT	GTG	GTA	GAT	GGA	GAC		
F	S	F	V	P	V	V	D	G	D		
TTC	CTC	AGT	GAC	ACC	CCA	GAG	GCC	CTC	ATC	1200	
F	L	S	D	T	P	E	A	L	I		
AAC	GCG	GGA	GAC	TTC	CAC	GGC	CTG	CAG	GTG		
N	A	G	D	F	H	G	L	Q	V		
CTG	GTG	GGT	GTG	GTG	AAG	GAT	GAG	GGC	TCG	1260	
L	V	G	V	V	K	D	E	G	S		
TAT	TTT	CTG	GTT	TAC	GGG	GCC	CCA	GGC	TTC		
Y	F	L	V	Y	G	A	P	G	F		
AGC	AAA	GAC	AAC	GAG	TCT	CTC	ATC	AGC	CGG	1320	
S	K	D	N	E	S	L	I	S	R		
GCC	GAG	TTC	CTG	GCC	GGG	GTG	CGG	GTC	GGG		
A	E	F	L	A	G	V	R	V	G		
GTT	CCC	CAG	GTA	AGT	GAC	CTG	GCA	GCC	GAG	1380	
V	P	Q	V	S	D	L	A	A	E		
GCT	GTG	GTC	CTG	CAT	TAC	ACA	GAC	TGG	CTG		
A	V	V	L	H	Y	T	D	W	L		
CAT	CCC	GAG	GAC	CCG	GCA	CGC	CTG	AGG	GAG	1440	
H	P	E	D	P	A	R	L	R	E		
GCC	CTG	AGC	GAT	GTG	GTG	GGC	GAC	CAC	AAT		
A	L	S	D	V	V	G	D	H	N		
GTC	GTG	TGC	CCC	GTG	GCC	CAG	CTG	GCT	GGG	1500	
V	V	C	P	V	A	Q	L	A	G		
CGA	CTG	GCT	GCC	CAG	GGT	GCC	CGG	GTC	TAC		
R	L	A	A	Q	G	A	R	V	Y		
GCC	TAC	GTC	TTT	GAA	CAC	CGT	GCT	TCC	ACG	1560	
A	Y	V	F	E	H	R	A	S	T		
CTC	TCC	TGG	CCC	CTG	TGG	ATG	GGG	GTG	CCC		
L	S	W	P	L	W	M	G	V	P		
CAC	GGC	TAC	GAG	ATC	GAG	TTC	ATC	TTT	GGG	1620	
H	G	Y	E	I	E	F	I	F	G		
ATC	CCC	CTG	GAC	CCC	TCT	CGA	AAC	TAC	ACG		
I	P	L	D	P	S	R	N	Y	T		
GCA	GAG	GAG	AAA	ATC	TTC	GCC	CAG	CGA	CTG	1680	
A	E	E	K	I	F	A	Q	R	L		

Fig-1c-3



ATG CGA TAC TGG GCC AAC TTT GCC CGC ACA	
M R Y W A N F A R T	
GGG GAT CCC AAT GAG CCC CGA GAC CCC AAG	1740
G D P N E P R D P K	
GCC CCA CAA TGG CCC CCG TAC ACG GCG GGG	
A P Q W P P Y T A G	
GCT CAG CAG TAC GTT AGT CTG GAC CTG CGG	1800
A Q Q Y V S L D L R	
CCG CTG GAG GTG CGG CGG GGG CTG CGC GCC	
P L E V R R G L R A	
CAG GCC TGC GCC TTC TGG AAC CGC TTC CTC	1860
Q A C A F W N R F L	
CCC AAA TTG CTC AGC GCC ACC GGT ATG CAG	
P K L L S A T G M Q	
GGG CCA GCG GGC AGC GCT GGG AGG AGG GGA	1920
G P A G S A G R R G	
GTG GGA GCC CGC CAG TGT AAC CCC TCT CTT	
V G A R Q C N P S L	
CTC CCC CTA GCC TCG GAG GCT CCC AGC ACC	1980
L P L A S E A P S T	
TGC CCA GGC TTC ACC CAT GGG GAG GCT GCT	
C P G F T H G E A A	
CCG AGG CCC GGC CTC CCC CTG CCC CTC CTC	2040
P R P G L P L P L L	
CTC CTC CAC CAG CTT CTC CTC CTC TTC CTC	
L L H Q L L L L F L	
TCC CAC CTC CGG CGG CTG TGA ACA CGG CCT	2100
S H L R R L	
CTT CCC CTA CGG CCT ACA GGG GCC CCT CCT	
CTA ATG AGT GGT AGG ACC TGT GGG GAA GGG	2160
CCC CAC TCA GGG ATC TCA GAC CTA GTG CTC	
CCT TCC TCC TCA AAC CGA GAG ACT CAC ACT	2220
GGA CAG GGC AGG AGG AGG GGC CGT GCC TCC	
CAC CCT TCT CAG GGA CCC CCA CGC CTT TGT	2280

Fig-1c-4

TGT TTG AAT GGA AAT GGA AAA GCC AGT ATT	
CTT TTA TAA AAT TAT CTT TTG GAA CCT GAG	2340
CCT GAC ATT GGG GGA AGT GGA GGC CCG GAA	
ACG GGG TAG CAC CCC CAT TGG GGC TAT AAC	2400
GGT CAA CCA TTT CTG TCT CTT CTT TTT CCC	
CCA ACC TCC CCC TCC TGT CCC CTC TGT TCC	2460
CGT CTT CCG GTC ATT CTT TTC TCC TCC TCT	
CTC CTT CCT GCT GTC CTT CTC GGC CCC GCC	2520
TCT GCC CTC ATC CTC CCT CTC GTC TTT CGC	
ACA TTC TCC TGA TCC TCT TGC CAC CGT CCC	2580
ACG TGG TCG CCT GCA TTT CTC CGT GCG TCC	
TCC CTG CAC TCA TAC CCC CCC TTC AAC CCG	2640
CCC AAA TGT CCG ATC CCC GAC CTT CCT CGT	
GCC GTC CTC CCC TCC CGC CTC GCT GGG CGC	2700
CCT GGC CGC AGA CAC GCT CGA CAC GCT CGA	
CGA GGC GGA GCG CCA GTG GAA GGC CGA GTT	2760
CCA CCG CTG GAG CTC CTA CAT GGT GCA CTG	
GAA GAA CCA GTT CGA CCA CTA CAG CAA GCA	2820
GGA TCG CTG CTC AGA CCT GTG ACC CCG GCG	
GGA CCC CCA TGT CCT CCG CTC CGC CCG GCC	2880
CCC TAG CTG TAT ATA CTA TTT ATT TCA GGG	
CTG GGC TAT AAC ACA GAC GAG CCC CAG ACT	2940
CTG CCC ATC CCC ACC CCA CCC CGA CGT CCC	
CCG GGG CTC CCG GTC CTC TGG CAT GTC TTC	3000
AGG CTG AGC TCC TCC CCG CGT GCC TTC GCC	
CTC TGG CTG CAA ATA AAC TGT TAC AGG CCA	3060
AAA AAA AAA AAA AAA AAA AAA AAA AAA AAA A	

Fig-1c-5

CCT CTC TCC CCT CAT CTT TGC CAA CCT GCC	
CCA CCT CCT CTG CAG CTG AGC GAT AAC CCT	60
TGG GCC GAC AGT GCC CTA ATC TCC TCC CTC	
CTG GCT TCT CGA CCG ACC CTT CAC CCT TTC	120
CCT TTC TTT CTC CCA GCA GAC GCC GCC TGC	
CCT GCA GCC <u>ATG</u> AGG CCC CCG CAG TGT CTG	180
<u>M</u> R P P Q C L	
CTG CAC ACG CCT TCC CTG GCT TCC CCA CTC	
L H T P S L A S P L	
CTT CTC CTC CTC CTC TGG CTC CTG GGT GGA	240
L L L L L W L L G G	
GGA GTG GGG GCT GAG GGC CGG GAG GAT GCA	
G V G A E G R E D A	
GAG CTG CTG GTG ACG GTG CGT GGG GGC CGG	300
E L L V T V R G G R	
CTG CGG GGC ATT CGC CTG AAG ACC CCC GGG	
L R G I R L K T P G	
GGC CCT GTC TCT GCT TTC CTG GGC ATC CCC	360
G P V S A F L G I P	
TTT GCG GAG CCA CCC ATG GGA CCC CGT CGC	
F A E P P M G P R R	
TTT CTG CCA CCG GAG CCC AAG CAG CCT TGG	420
F L P P E P K Q P W	
TCA GGG GTG GTA GAC GCT ACA ACC TTC CAG	
S G V V D A T T F Q	
AGT GTC TGC TAC CAA TAT GTG GAC ACC CTA	480
S V C Y Q Y V D T L	
TAC CCA GGT TTT GAG GGC ACC GAG ATG TGG	
Y P G F E G T E M W	
AAC CCC AAC CGT GAG CTG AGC GAG GAC TGC	540
N P N R E L S E D C	

Fig-1d-1

CTG	TAC	CTC	AAC	GTG	TGG	ACA	CCA	TAC	CCC	
L	Y	L	N	V	W	T	P	Y	P	
CGG	CCT	ACA	TCC	CCC	ACC	CCT	GTC	CTC	GTC	600
R	P	T	S	P	T	P	V	L	V	
TGG	ATC	TAT	GGG	GGT	GGC	TTC	TAC	AGT	GGG	
W	I	Y	G	G	G	F	Y	S	G	
GCC	TCC	TCC	TTG	GAC	GTG	TAC	GAT	GGC	CGC	660
A	S	S	L	D	V	Y	D	G	R	
TTC	TTG	GTA	CAG	GCC	GAG	AGG	ACT	GTG	CTG	
F	L	V	Q	A	E	R	T	V	L	
GTG	TCC	ATG	AAC	TAC	CGG	GTG	GGA	GCC	TTT	720
V	S	M	N	Y	R	V	G	A	F	
GGC	TTC	CTG	GCC	CTG	CCG	GGG	AGC	CGA	GAG	
G	F	L	A	L	P	G	S	R	E	
GCC	CCG	GGC	AAT	GTG	GGT	CTC	CTG	GAT	CAG	780
A	P	G	N	V	G	L	L	D	Q	
AGG	CTG	GCC	CTG	CAG	TGG	GTG	CAG	GAG	AAC	
R	L	A	L	Q	W	V	Q	E	N	
GTG	GCA	GCC	TTC	GGG	GGT	GAC	CCG	ACA	TCA	840
V	A	A	F	G	G	D	P	T	S	
GTG	ACG	CTG	TTT	GGG	GAG	AGC	GCG	GGA	GCC	
V	T	L	F	G	E	S	A	G	A	
GCC	TCG	GTG	GGC	ATG	CAC	CTG	CTG	TCC	CCG	900
A	S	V	G	M	H	L	L	S	P	
CCC	AGC	CGG	GGC	CTG	TTC	CAC	AGG	GCC	GTG	
P	S	R	G	L	F	H	R	A	V	
CTG	CAG	AGC	GGT	GCC	CCC	AAT	GGA	CCC	TGG	960
L	Q	S	G	A	P	N	G	P	W	
GCC	ACG	GTG	GGC	ATG	GGA	GAG	GCC	CGT	CGC	
A	T	V	G	M	G	E	A	R	R	
AGG	GCC	ACG	CAG	CTG	GCC	CAC	CTT	GTG	GGC	1020
R	A	T	Q	L	A	H	L	V	G	
TGT	CCT	CCA	GGC	GGC	ACT	GGT	GGG	AAT	GAC	
C	P	P	G	G	T	G	G	N	D	

Fig-1d-2

ACA	GAG	CTG	GTA	GCC	TGC	CTT	CGG	ACA	CGA	1080
T	E	L	V	A	C	L	R	T	R	
CCA	GCG	CAG	GTC	CTG	GTG	AAC	CAC	GAA	TGG	
P	A	Q	V	L	V	N	H	E	W	
CAC	GTG	CTG	CCT	CAA	GAA	AGC	GTC	TTC	CGG	1140
H	V	L	P	Q	E	S	V	F	R	
TTC	TCC	TTC	GTG	CCT	GTG	GTA	GAT	GGA	GAC	
F	S	F	V	P	V	V	D	G	D	
TTC	CTC	AGT	GAC	ACC	CCA	GAG	GCC	CTC	ATC	1200
F	L	S	D	T	P	E	A	L	I	
AAC	GCG	GGA	GAC	TTC	CAC	GGC	CTG	CAG	GTG	
N	A	G	D	F	H	G	L	Q	V	
CTG	GTG	GGT	GTG	GTG	AAG	GAT	GAG	GGC	TCG	1260
L	V	G	V	V	K	D	E	G	S	
TAT	TTT	CTG	GTT	TAC	GGG	GCC	CCA	GGC	TTC	
Y	F	L	V	Y	G	A	P	G	F	
AGC	AAA	GAC	AAC	GAG	TCT	CTC	ATC	AGC	CGG	1320
S	K	D	N	E	S	L	I	S	R	
GCC	GAG	TTC	CTG	GCC	GGG	GTG	CGG	GTC	GGG	
A	E	F	L	A	G	V	R	V	G	
GTT	CCC	CAG	GTA	AGT	GAC	CTG	GCA	GCC	GAG	1380
V	P	Q	V	S	D	L	A	A	E	
GCT	GTG	GTC	CTG	CAT	TAC	ACA	GAC	TGG	CTG	
A	V	V	L	H	Y	T	D	W	L	
CAT	CCC	GAG	GAC	CCG	GCA	CGC	CTG	AGG	GAG	1440
H	P	E	D	P	A	R	L	R	E	
GCC	CTG	AGC	GAT	GTG	GTG	GGC	GAC	CAC	AAT	
A	L	S	D	V	V	G	D	H	N	
GTC	GTG	TGC	CCC	GTG	GCC	CAG	CTG	GCT	GGG	1500
V	V	C	P	V	A	Q	L	A	G	
CGA	CTG	GCT	GCC	CAG	GGT	GCC	CGG	GTC	TAC	
R	L	A	A	Q	G	A	R	V	Y	
GCC	TAC	GTC	TTT	GAA	CAC	CGT	GCT	TCC	ACG	1560
A	Y	V	F	E	H	R	A	S	T	

Fig-1d-3

CTC	TCC	TGG	CCC	CTG	TGG	ATG	GGG	GTG	CCC		
L	S	W	P	L	W	M	G	V	P		
CAC	GGC	TAC	GAG	ATC	GAG	TTC	ATC	TTT	GGG	1620	
H	G	Y	E	I	E	F	I	F	G		
ATC	CCC	CTG	GAC	CCC	TCT	CGA	AAC	TAC	ACG		
I	P	L	D	P	S	R	N	Y	T		
GCA	GAG	GAG	AAA	ATC	TTC	GCC	CAG	CGA	CTG	1680	
A	E	E	K	I	F	A	Q	R	L		
ATG	CGA	TAC	TGG	GCC	AAC	TTT	GCC	CGC	ACA		
M	R	Y	W	A	N	F	A	R	T		
GGG	GAT	CCC	AAT	GAG	CCC	CGA	GAC	CCC	AAG	1740	
G	D	P	N	E	P	R	D	P	K		
GCC	CCA	CAA	TGG	CCC	CCG	TAC	ACG	GCG	GGG		
A	P	Q	W	P	P	Y	T	A	G		
GCT	CAG	CAG	TAC	GTT	AGT	CTG	GAC	CTG	CGG	1800	
A	Q	Q	Y	V	S	L	D	L	R		
CCG	CTG	GAG	GTG	CGG	CGG	GGG	CTG	CGC	GCC		
P	L	E	V	R	R	G	L	R	A		
CAG	GCC	TGC	GCC	TTC	TGG	AAC	CGC	TTC	CTC	1860	
Q	A	C	A	F	W	N	R	F	L		
CCC	AAA	TTG	CTC	AGC	GCC	ACC	GCC	TCG	GAG		
P	K	L	L	S	A	T	A	S	E		
GCT	CCC	AGC	ACC	TGC	CCA	GGC	TTC	ACC	CAT	1920	
A	P	S	T	C	P	G	F	T	H		
GGG	GAG	GCT	GCT	CCG	AGG	CCC	GGC	CTC	CCC		
G	E	A	A	P	R	P	G	L	P		
CTG	CCC	CTC	CTC	CTC	CTC	CAC	CAG	CTT	CTC	1980	
L	P	L	L	L	L	H	Q	L	L		
CTC	CTC	TTC	CTC	TCC	CAC	CTC	CGG	CGG	CTG		
L	L	F	L	S	H	L	R	R			
TGA	ACA	CGG	CCT	CTT	CCC	CTA	CGG	CCT	ACA	2040	
GGG	GCC	CCT	CCT	CTA	ATG	AGT	GGT	AGG	ACC		
TGT	GGG	GAA	GGG	CCC	CAC	TCA	GGG	ATC	TCA	2100	

Fig-1d-4

GAC CTA GTG CTC CCT TCC TCC TCA AAC CGA	
GAG ACT CAC ACT GGA CAG GGC AGG AGG AGG	2160
GGC CGT GCC TCC CAC CCT TCT CAG GGA CCC	
CCA CGC CTT TGT TGT TTG AAT GGA AAT GGA	2220
AAA GCC AGT ATT CTT TTA TAA AAT TAT CTT	
TTG GAA CCT GAG CCT GAC ATT GGG GGA AGT	2280
GGA GGC CCG GAA ACG GGG TAG CAC CCC CAT	
TGG GGC TAT AAC GGT CAA CCA TTT CTG TCT	2340
CTT CTT TTT CCC CCA ACC TCC CCC TCC TGT	
CCC CTC TGT TCC CGT CTT CCG GTC ATT CTT	2400
TTC TCC TCC TCT CTC CTT CCT GCT GTC CTT	
CTC GGC CCC GCC TCT GCC CTC ATC CTC CCT	2460
CTC GTC TTT CGC ACA TTC TCC TGA TCC TCT	
TGC CAC CGT CCC ACG TGG TCG CCT GCA TTT	2520
CTC CGT GCG TCC TCC CTG CAC TCA TAC CCC	
CCC TTC AAC CCG CCC AAA TGT CCG ATC CCC	2580
GAC CTT CCT CGT GCC GTC CTC CCC TCC CGC	
CTC GCT GGG CGC CCT GGC CGC AGA CAC GCT	2640
CGA CAC GCT CGA CGA GGC GGA GCG CCA GTG	
GAA GGC CGA GTT CCA CCG CTG GAG CTC CTA	2700
CAT GGT GCA CTG GAA GAA CCA GTT CGA CCA	
CTA CAG CAA GCA GGA TCG CTG CTC AGA CCT	2760
GTG ACC CCG GCG GGA CCC CCA TGT CCT CCG	
CTC CGC CCG GCC CCC TAG CTG TAT ATA CTA	2820
TTT ATT TCA GGG CTG GGC TAT AAC ACA GAC	

Fig-1d-5

GAG CCC CAG ACT CTG CCC ATC CCC ACC CCA	2880
CCC CGA CGT CCC CCG GGG CTC CCG GTC CTC	
TGG CAT GTC TTC AGG CTG AGC TCC TCC CCG	2940
CGT GCC TTC GCC CTC TGG CTG CAA ATA AAC	
TGT TAC AGG CCA AAA AAA AAA AAA AAA AAA	3000
AAA AAA AAA AAA AAA A	



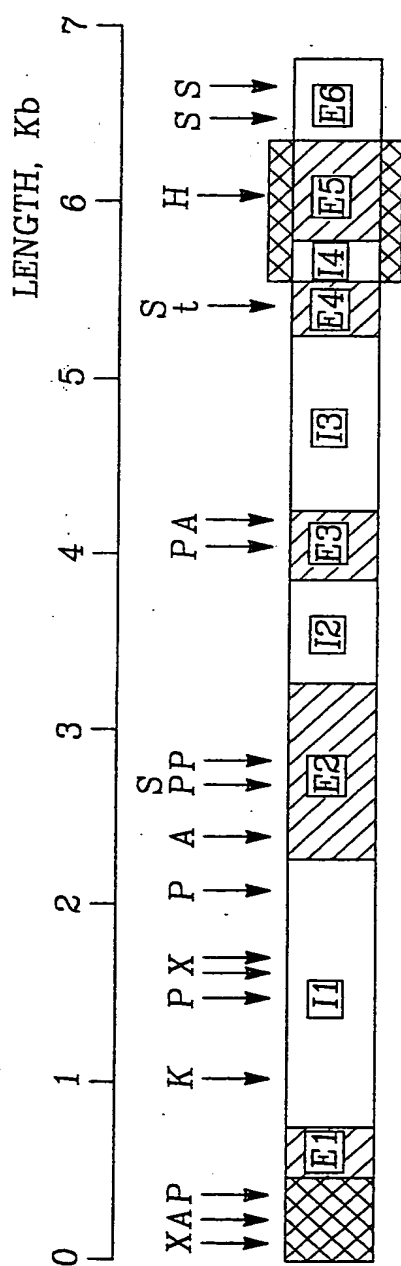


Fig-2a

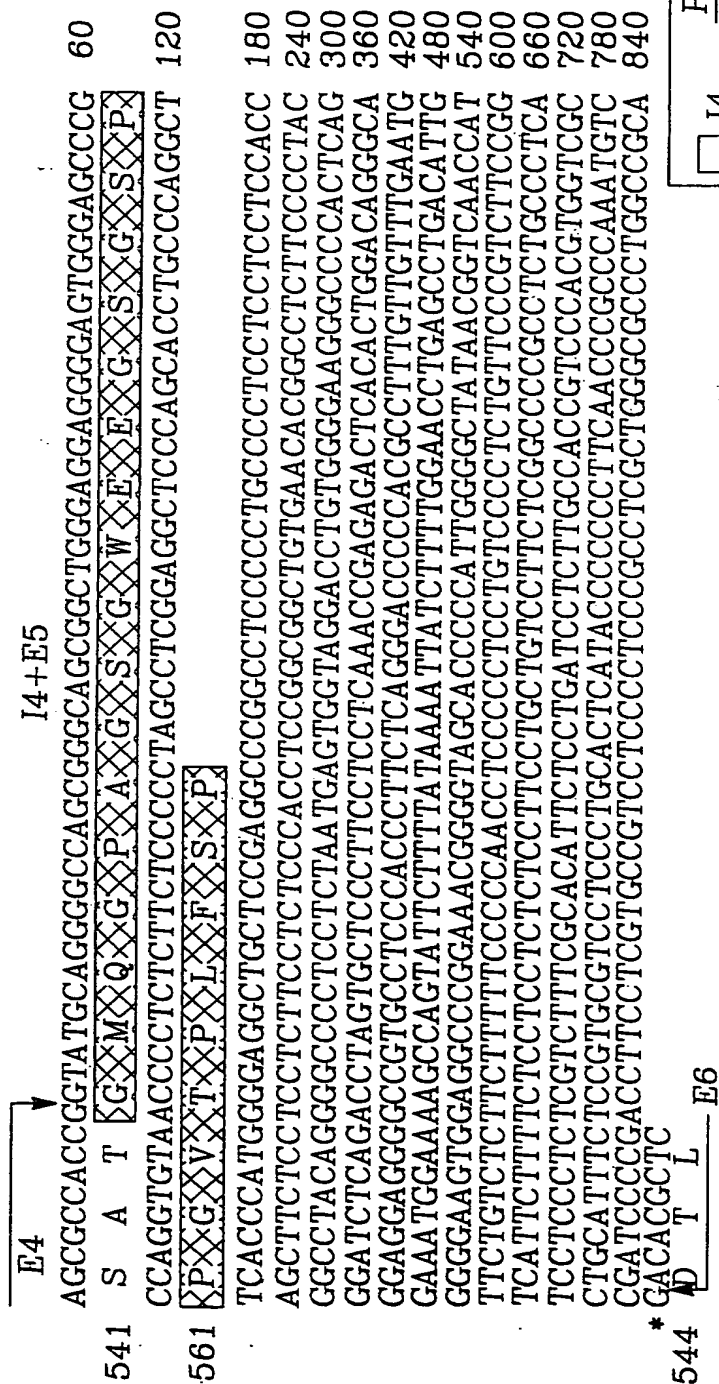


Fig-2b

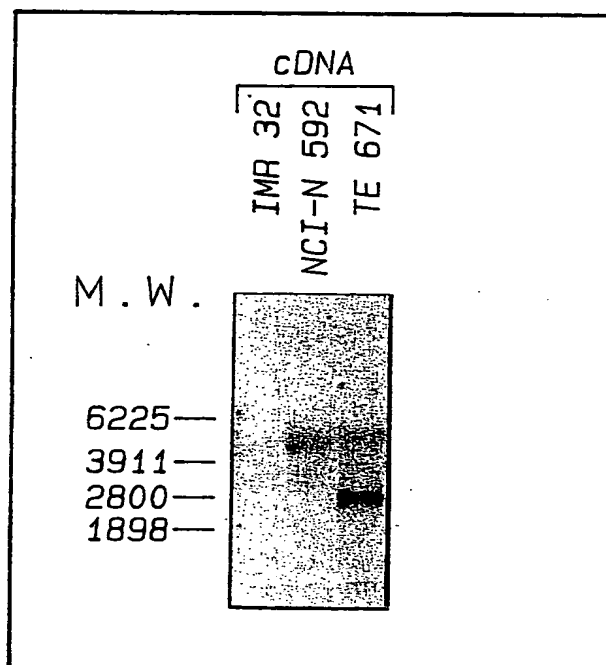


Fig-3a

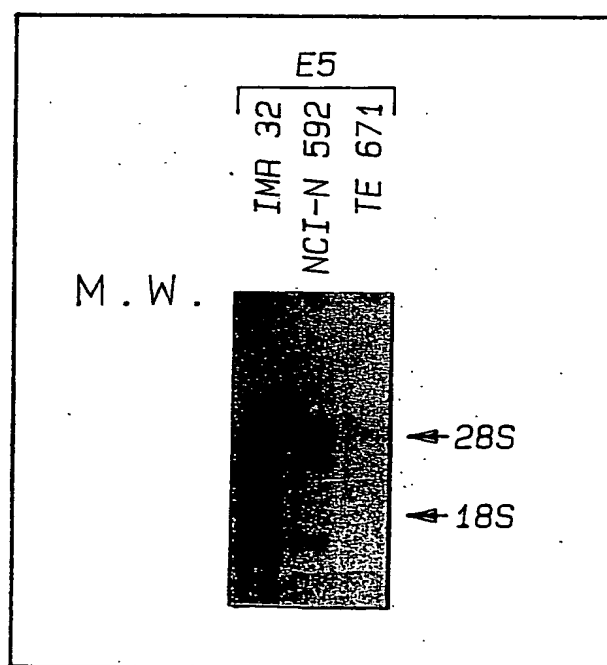


Fig-3b

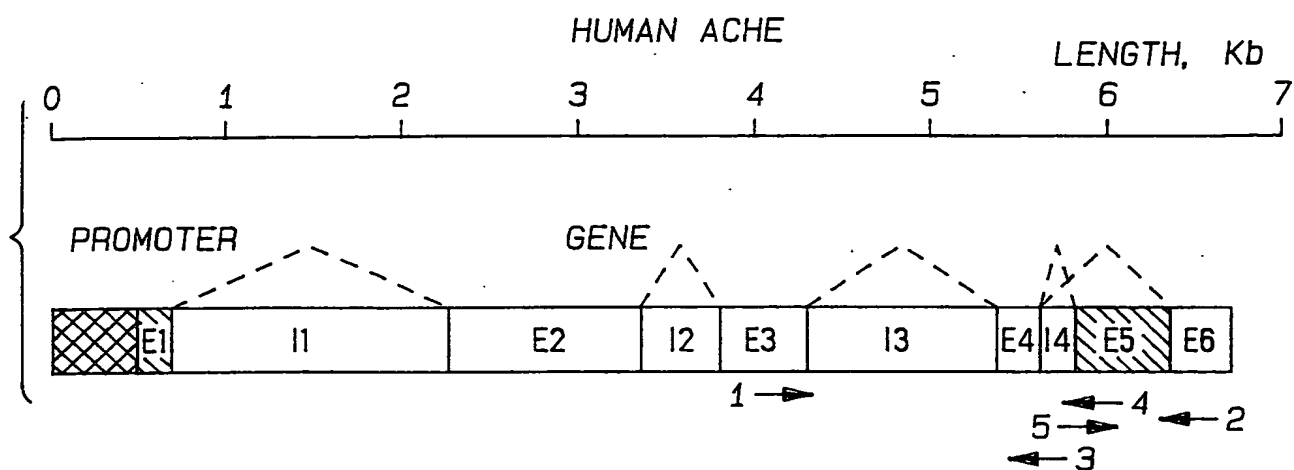


Fig-4a

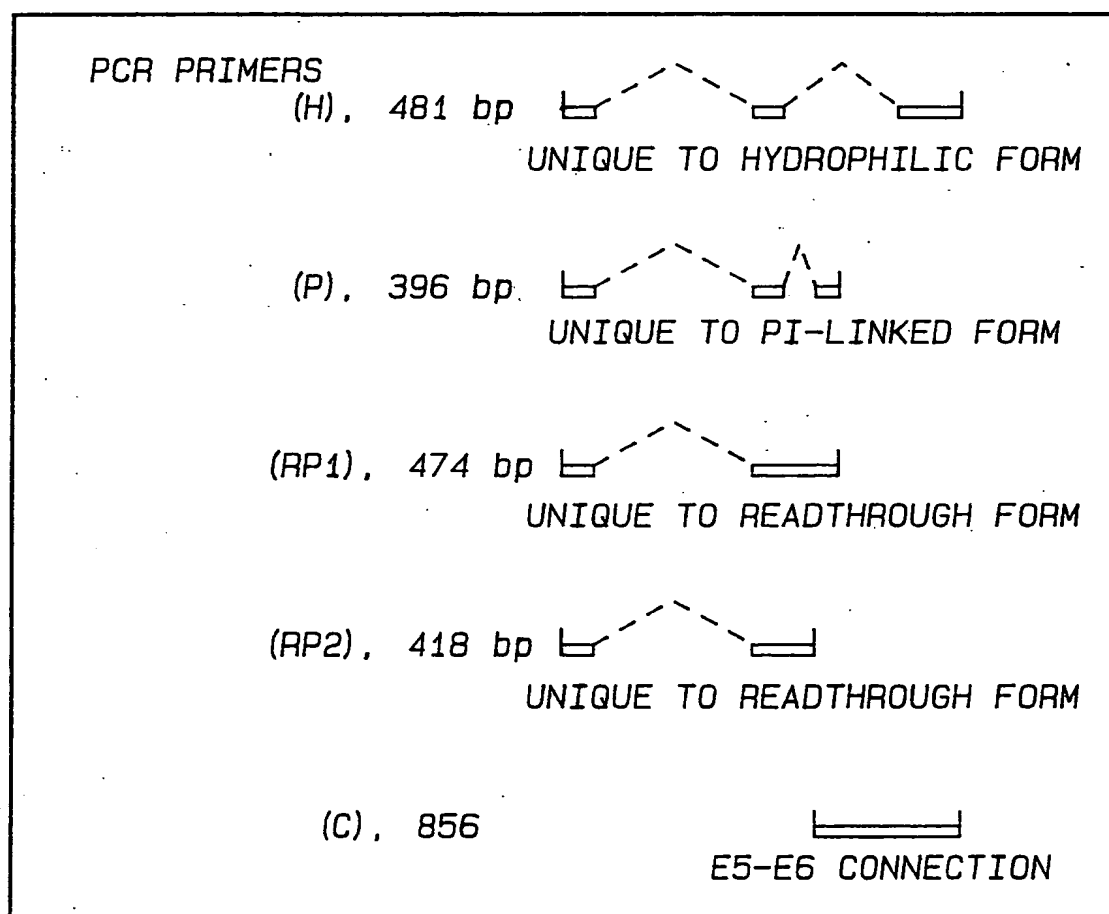


Fig-4b

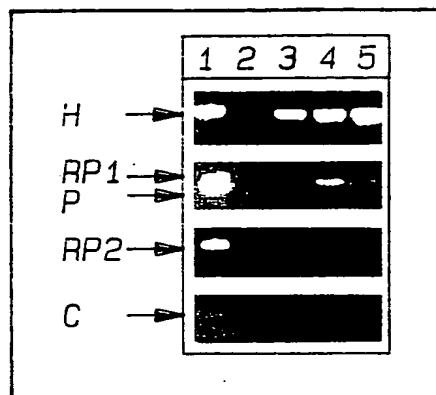


Fig-4c

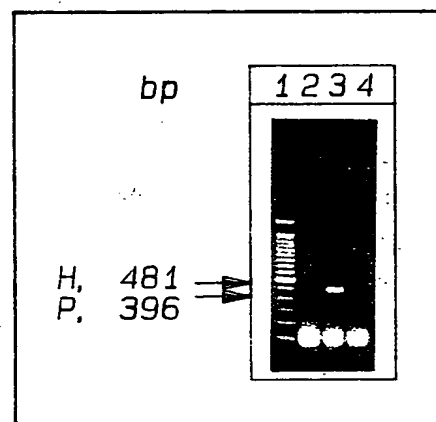


Fig-4d

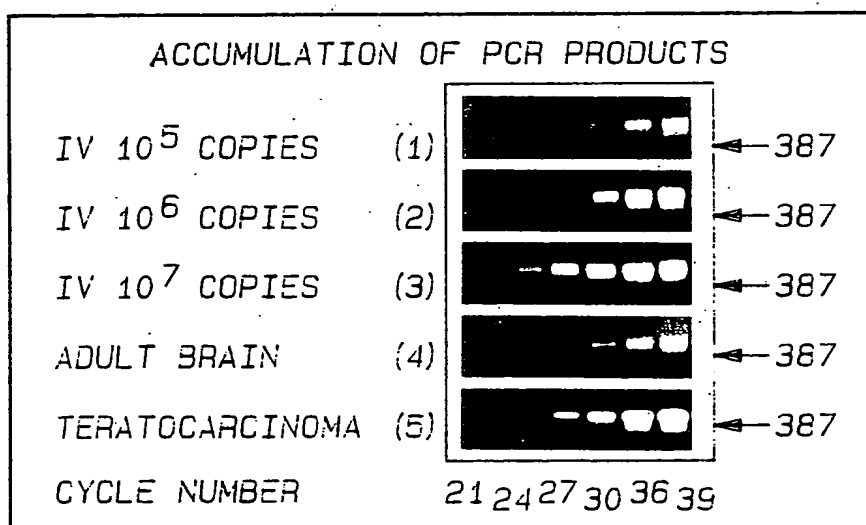


Fig-5a

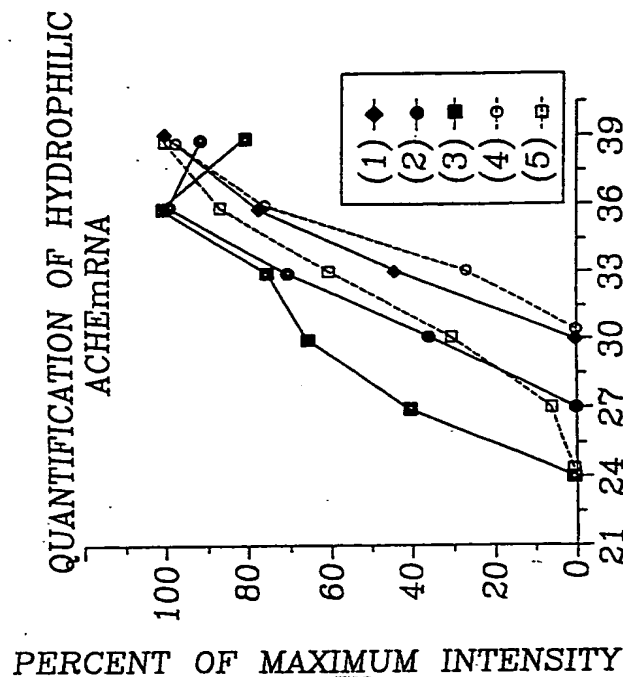


Fig-5b

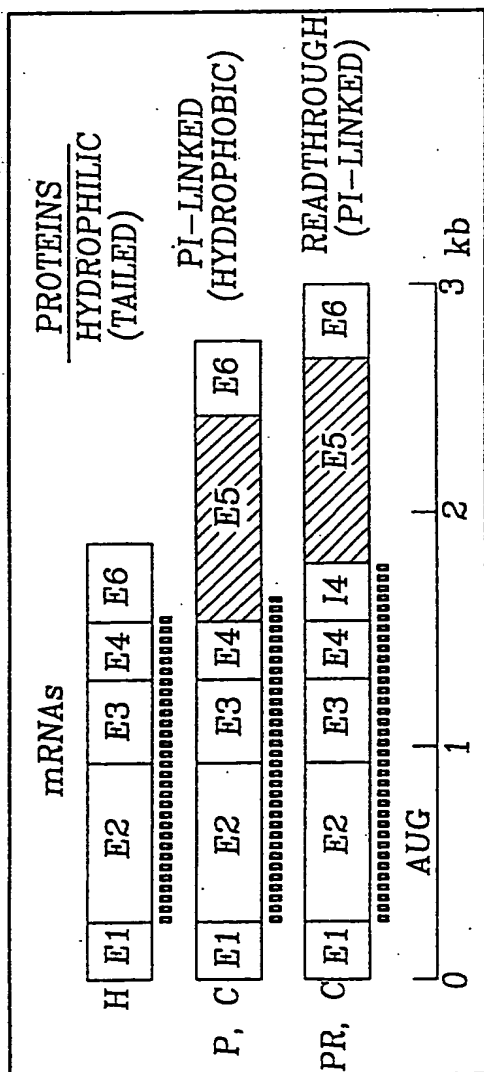


Fig-4e

HYDROPHILIC H LLSAT E4 E6  
(E1-4,6) DTLDEAERQWKAEFHRWSSYMVHWKNQFDHYSKQDRCSDL\*

PI-LINKED H LLSAT ASEAPSTCPGFT HGEA A P R P G L P L L L H C L L L F L S H L R R L \*  
(E1-5) R LLSAT ATEVPCTCPSPA HGEA A P R P G P A L S L S L L F F L L H S G L R W - L \*

READTHROUGH H LLSAT E4 I4 E5  
(E1-4, I4, E5) R LLSAT GRRGVGKQGMHKAARVGRGTGERKGGKHRM\*  
GMQGPAGSGWEEGSGPPGVTPLFSP

Fig-6

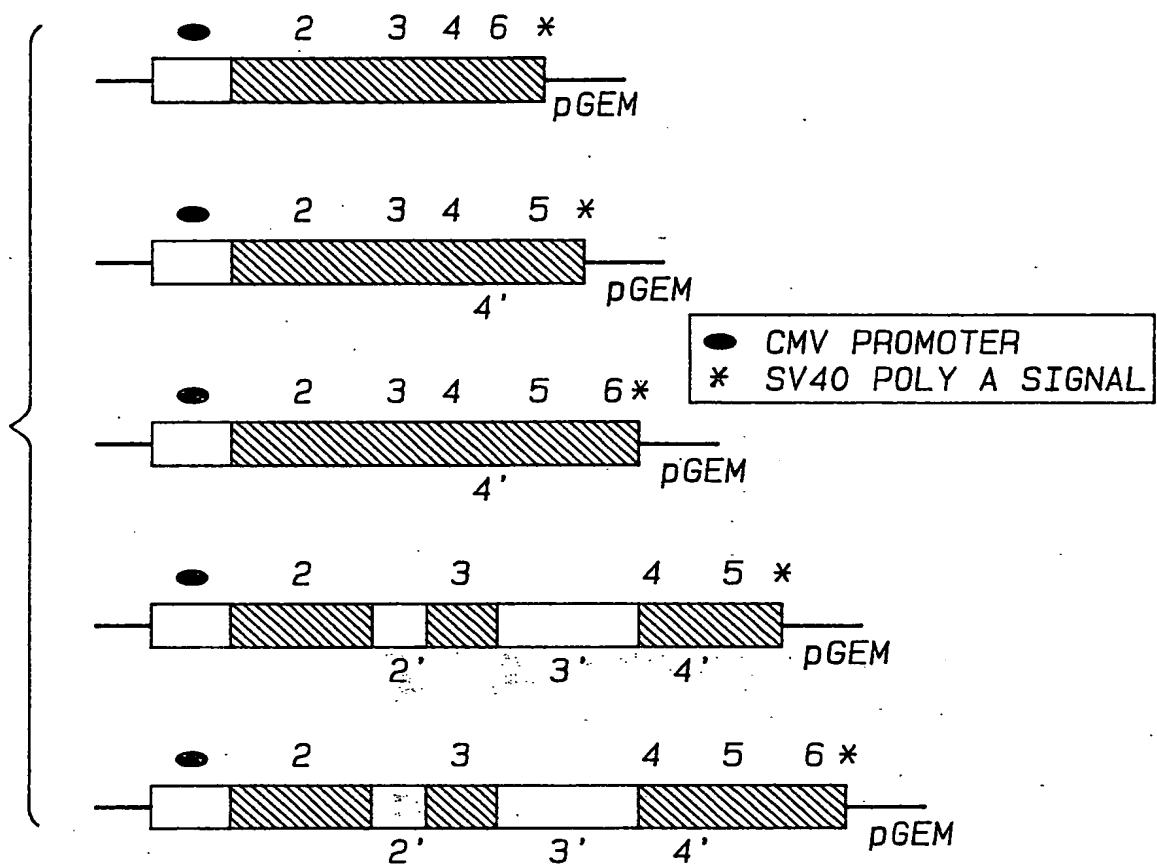


Fig-7a

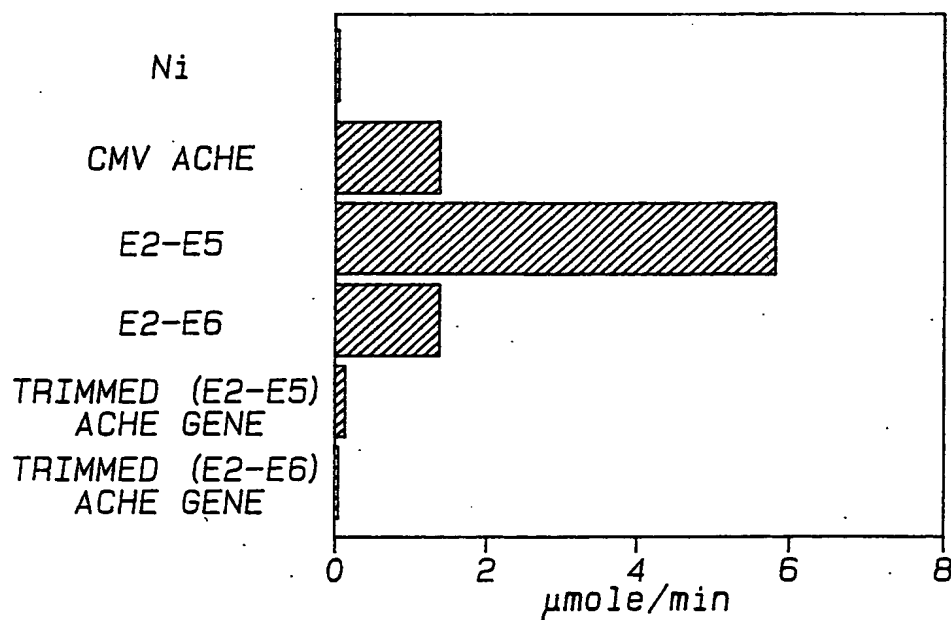


Fig-7b

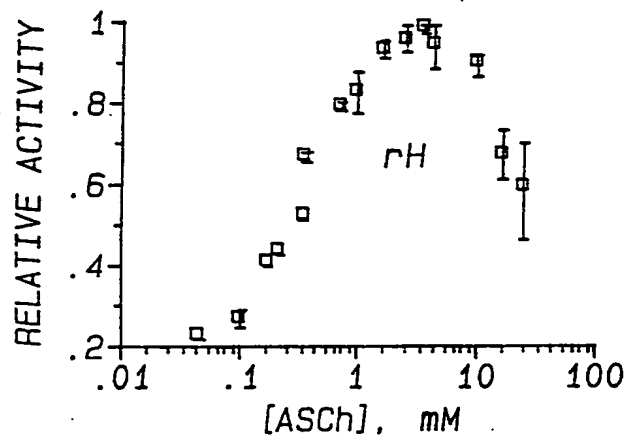


Fig-8a

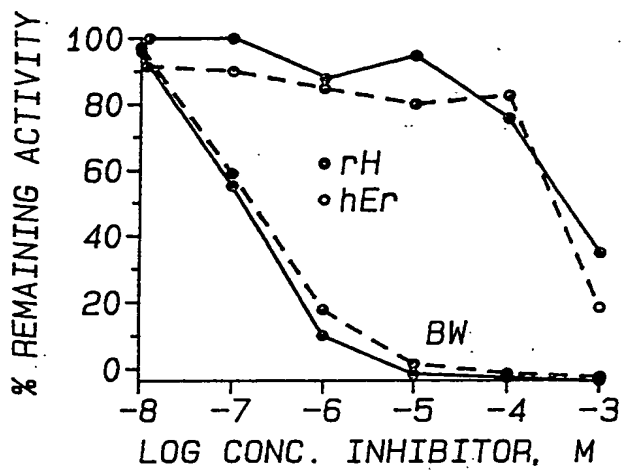


Fig-8b

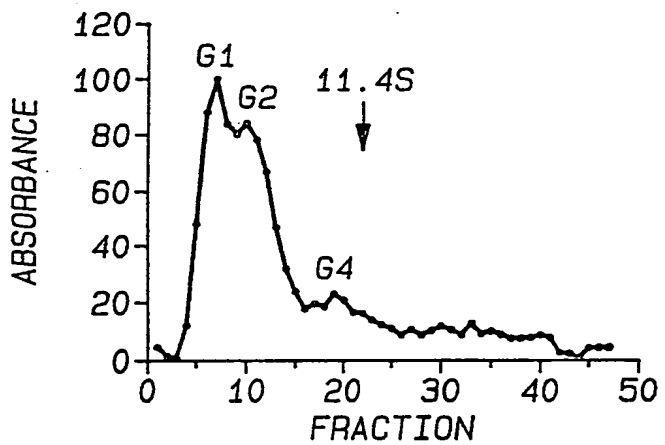


Fig-8c

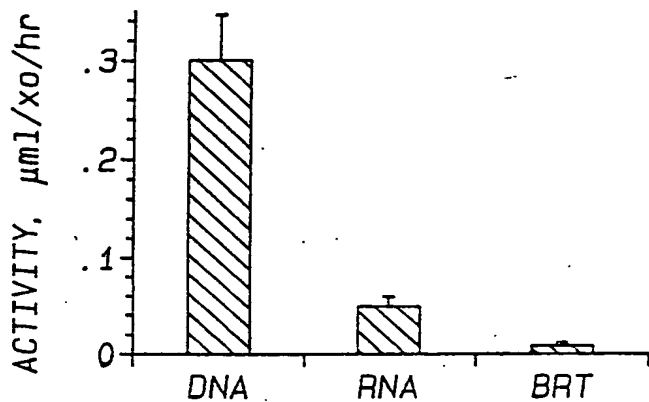


Fig-8d

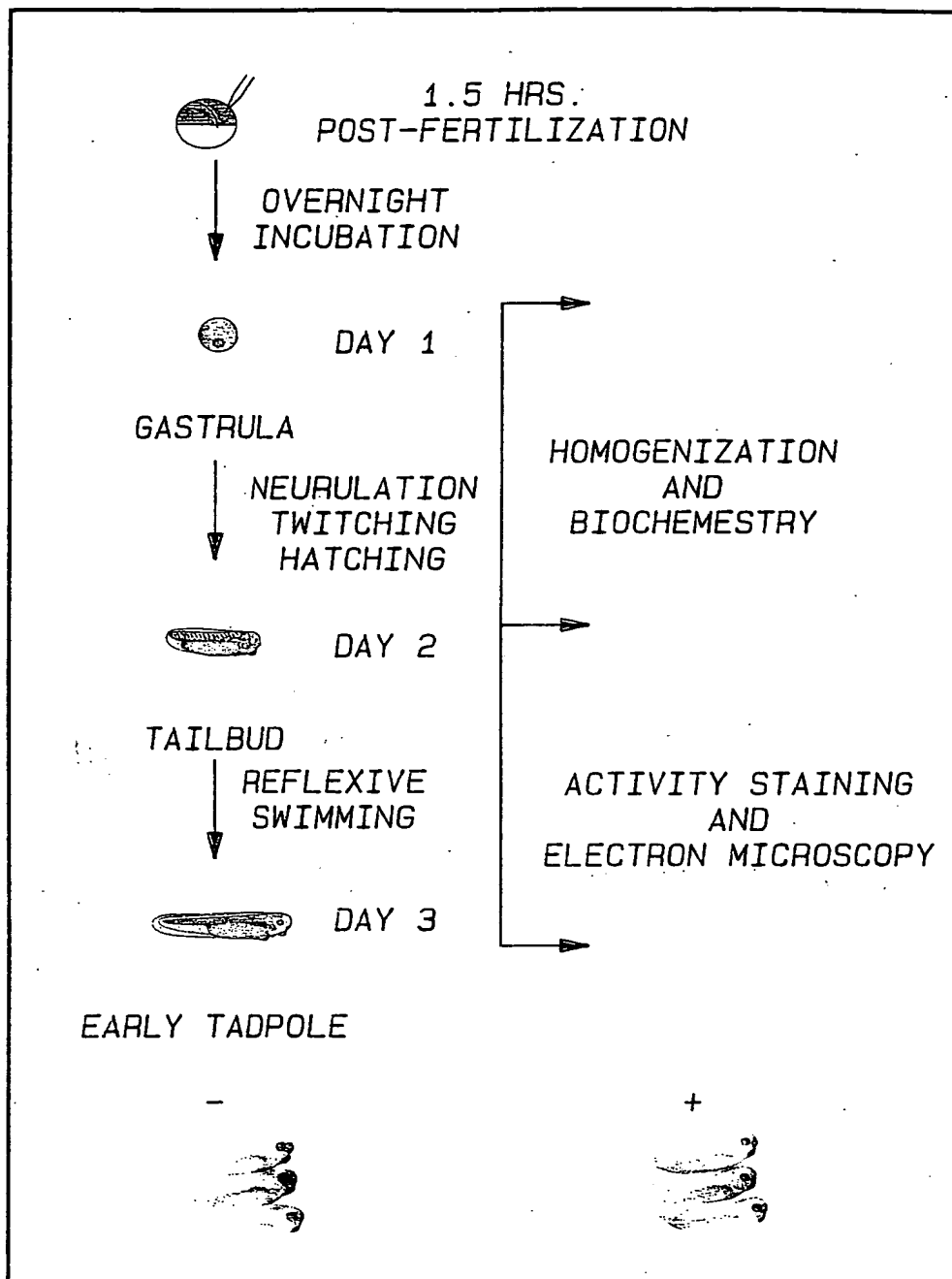


Fig-9

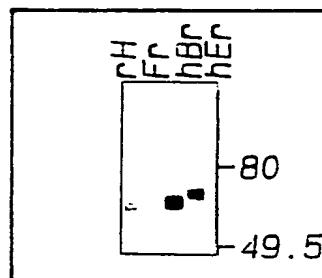


Fig-10b



Figure 1 consists of two graphs. The top graph is a line plot showing the percentage of remaining activity versus the logarithm of concentration (M) for two substances: Fr (progesterone receptor) and rH (progesterone receptor hormone). The y-axis is labeled '% REMAINING ACTIVITY' and ranges from 0 to 100. The x-axis is labeled 'LOG CONC., M' and ranges from -8 to -4. The Fr curve (squares) starts at approximately 95% activity at -8 M and decreases to near 0% at -5 M. The rH curve (circles) starts at approximately 75% activity at -8 M and decreases to near 0% at -6 M. The bottom graph is a bar chart showing the activity (μmole/hr/XE) of rH and Fr over four post-fertilization days. The y-axis is labeled 'ACTIVITY, μmole/hr/XE' and ranges from 0 to 0.4. The x-axis is labeled 'POST FERTILIZATION DAY' and ranges from 1 to 4. The bars are stacked, with rH (hatched) at the bottom and Fr (cross-hatched) on top. Error bars are shown for each bar. A dashed line connects the Fr activity points across the days. The sample sizes (N) are indicated above each bar: N=12 for day 1, N=5 for day 2, N=5 for day 3, and N=2 for day 4.

Log Conc., M	Fr (% Remaining Activity)	rH (% Remaining Activity)
-8	95	75
-7	90	15
-6.5	85	5
-6	75	2
-5.5	55	1
-5	10	0
-4	0	0

Post Fertilization Day	rH Activity (μmole/hr/XE)	Fr Activity (μmole/hr/XE)	Total Activity (μmole/hr/XE)	N
1	0.22	0.02	0.24	12
2	0.28	0.05	0.33	5
3	0.24	0.10	0.34	5
4	0.28	0.10	0.38	2

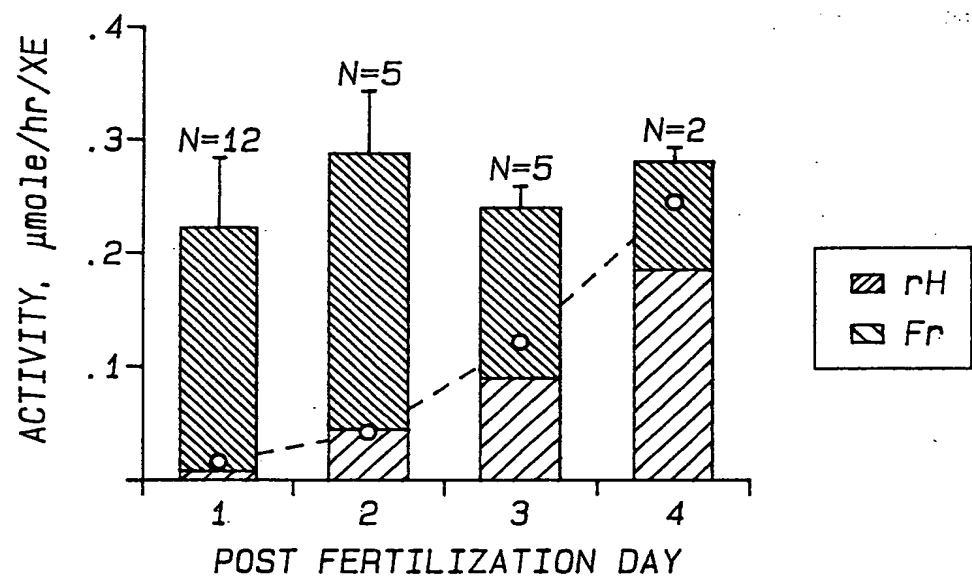


Fig-10a

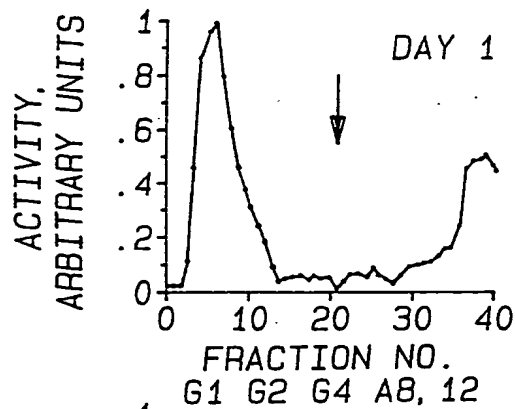


Fig-11a

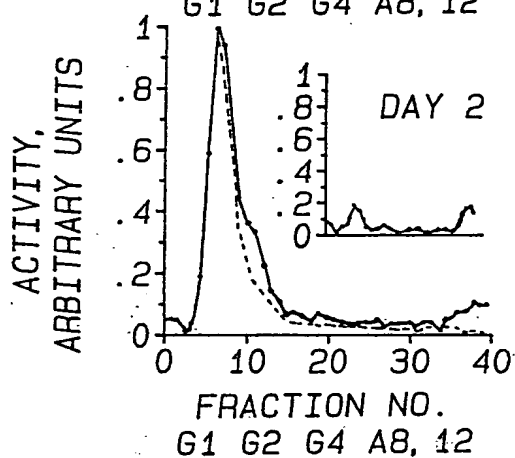


Fig-11b

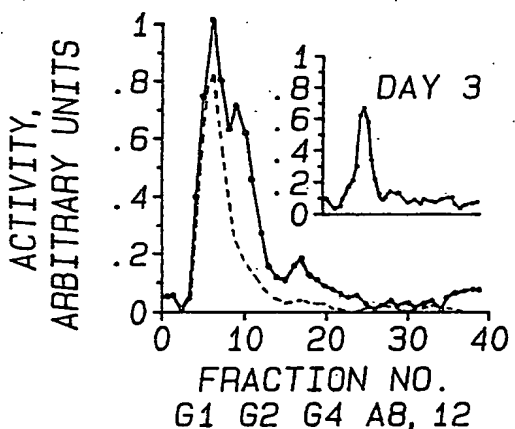


Fig-11c

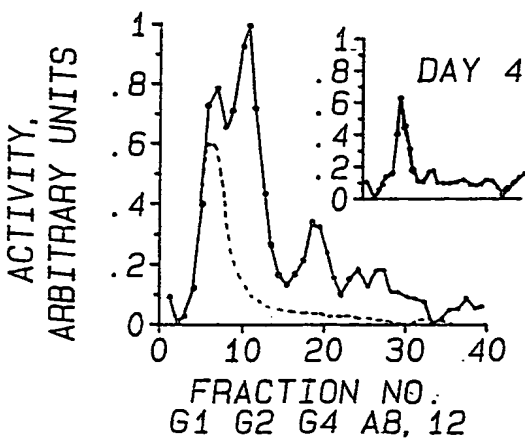


Fig-11d

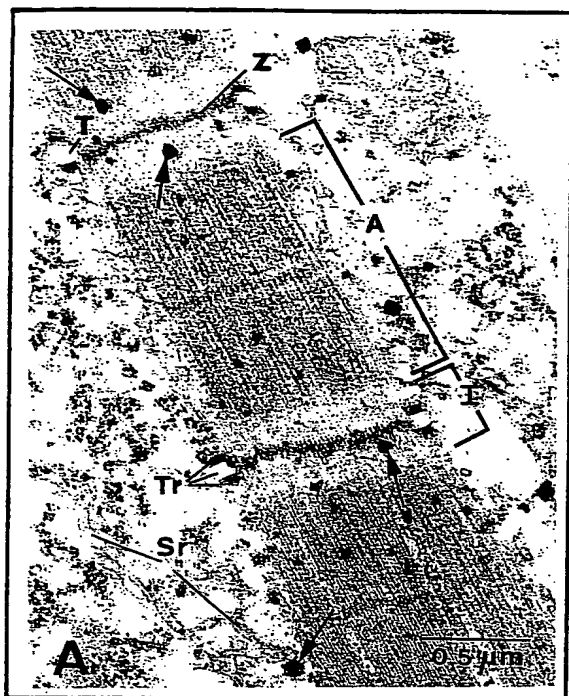


Fig-12a



Fig-12b

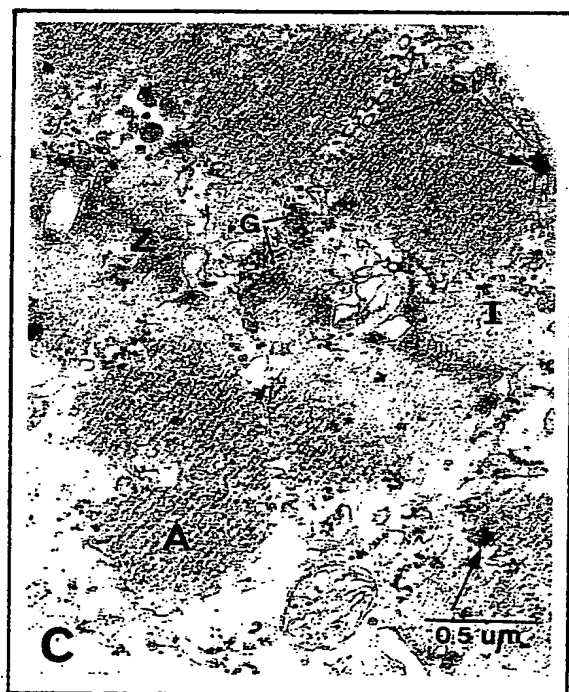


Fig-12c

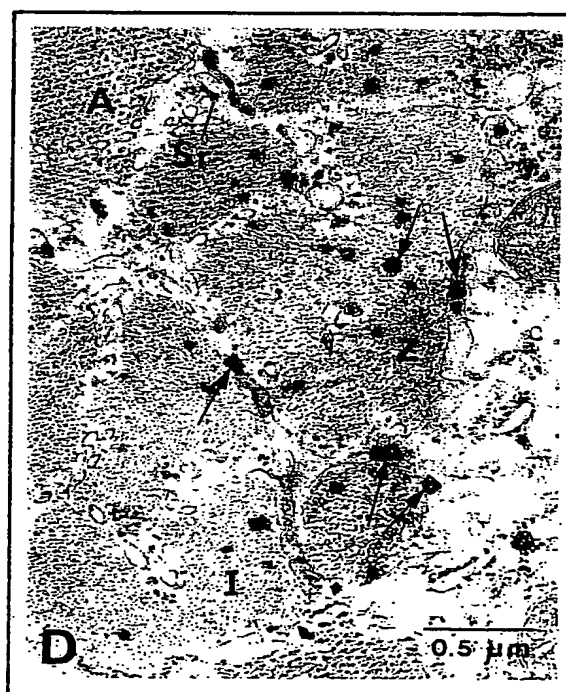


Fig-12d



Fig-13a



Fig-13b



Fig-13c



Fig-13d



Fig-14a

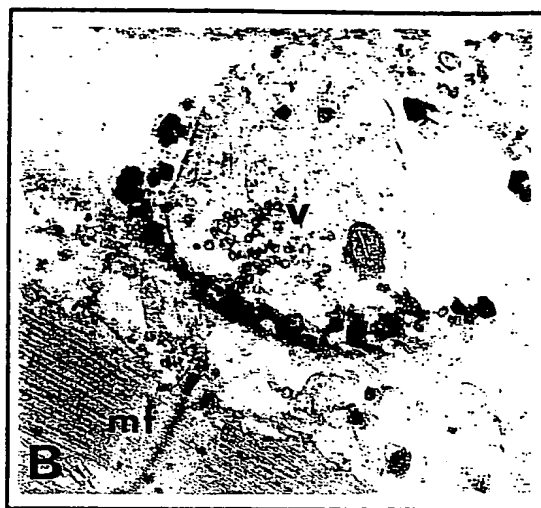


Fig-14b



Fig-14c

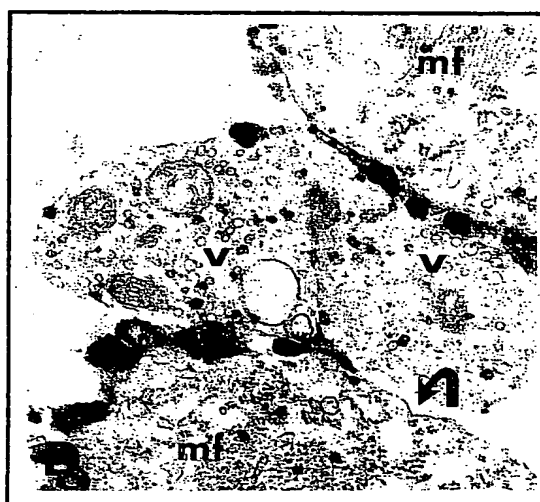


Fig-14d

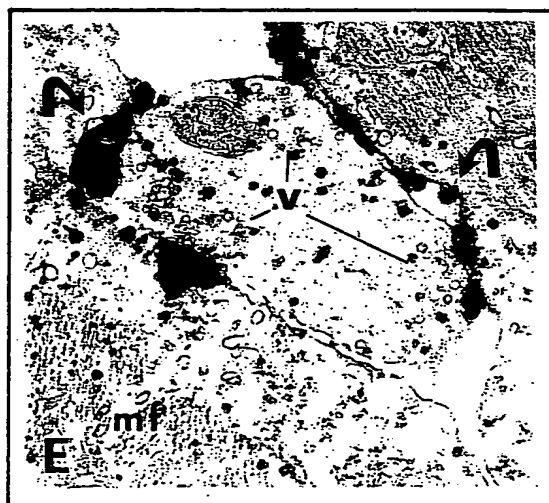


Fig-14e

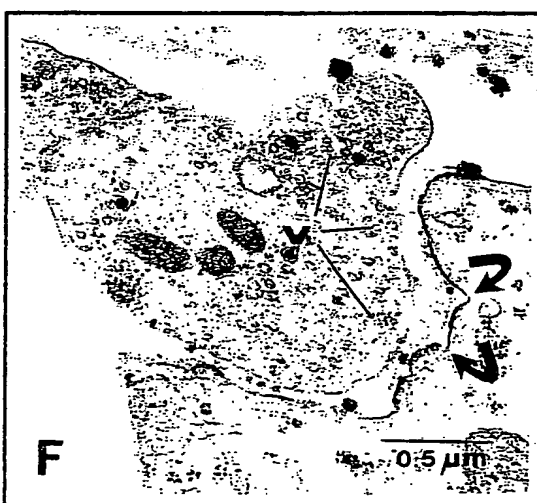


Fig-14f

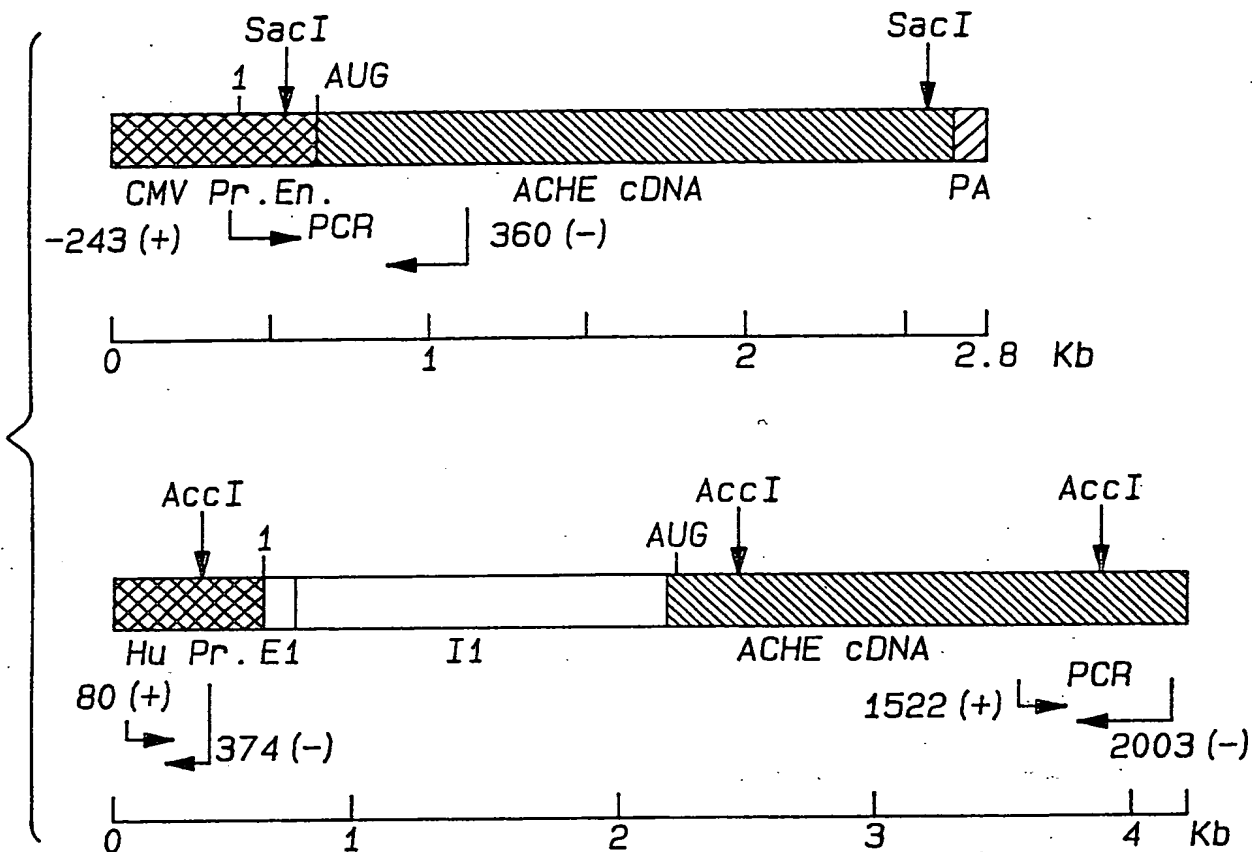


Fig-15

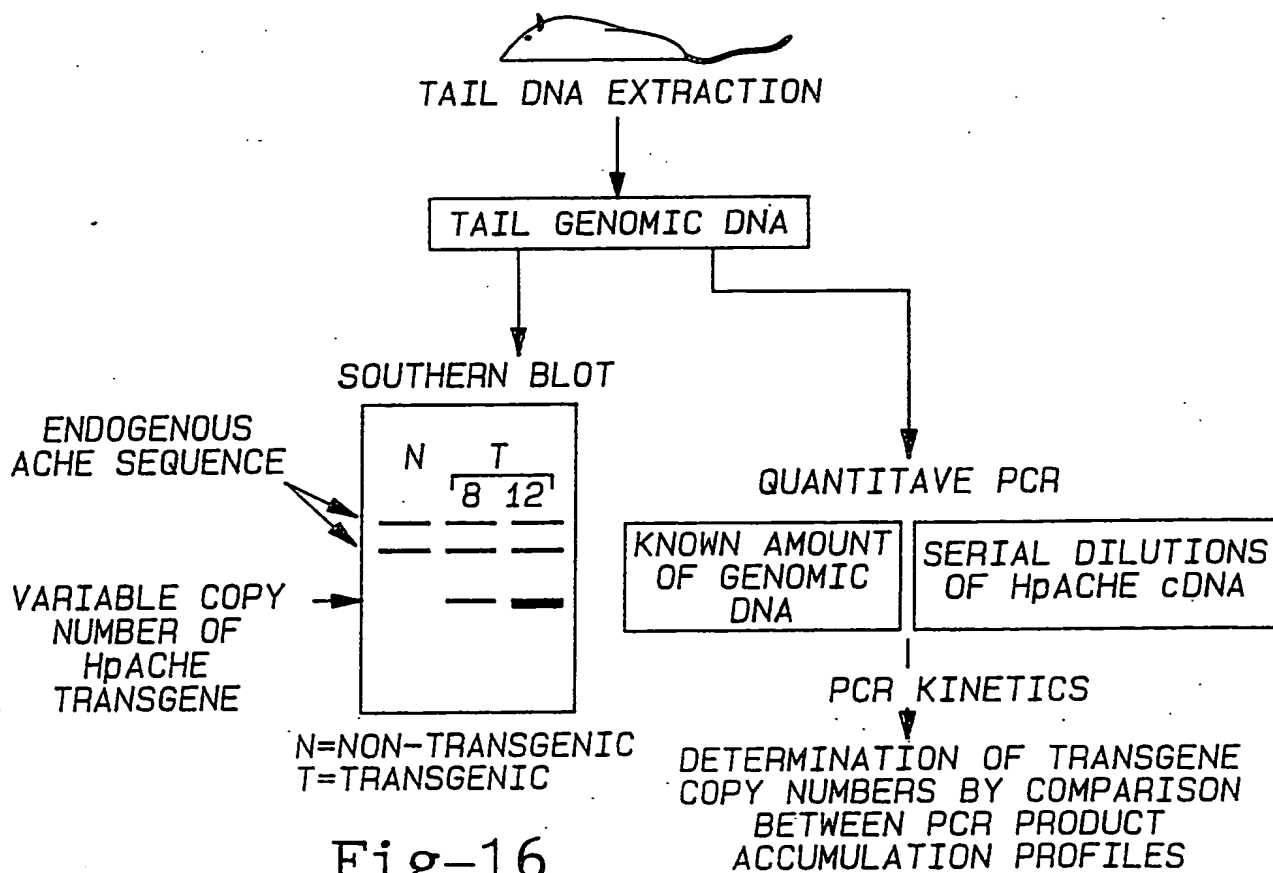


Fig-16

1. The first group of symbols represents the first generation (F0).  
 2. The second group of symbols represents the second generation (F1).  
 3. The third group of symbols represents the third generation (F2).  
 4. The fourth group of symbols represents the fourth generation (F3).  
 5. The fifth group of symbols represents the fifth generation (F4).  
 6. The sixth group of symbols represents the sixth generation (F5).  
 7. The seventh group of symbols represents the seventh generation (F6).  
 8. The eighth group of symbols represents the eighth generation (F7).  
 9. The ninth group of symbols represents the ninth generation (F8).  
 10. The tenth group of symbols represents the tenth generation (F9).  
 11. The eleventh group of symbols represents the eleventh generation (F10).  
 12. The twelfth group of symbols represents the twelfth generation (F11).  
 13. The thirteenth group of symbols represents the thirteenth generation (F12).  
 14. The fourteenth group of symbols represents the fourteenth generation (F13).  
 15. The fifteenth group of symbols represents the fifteenth generation (F14).  
 16. The sixteenth group of symbols represents the sixteenth generation (F15).  
 17. The seventeenth group of symbols represents the seventeenth generation (F16).  
 18. The eighteenth group of symbols represents the eighteenth generation (F17).  
 19. The nineteenth group of symbols represents the nineteenth generation (F18).  
 20. The twentieth group of symbols represents the twentieth generation (F19).  
 21. The twenty-first group of symbols represents the twenty-first generation (F20).  
 22. The twenty-second group of symbols represents the twenty-second generation (F21).  
 23. The twenty-third group of symbols represents the twenty-third generation (F22).  
 24. The twenty-fourth group of symbols represents the twenty-fourth generation (F23).  
 25. The twenty-fifth group of symbols represents the twenty-fifth generation (F24).  
 26. The twenty-sixth group of symbols represents the twenty-sixth generation (F25).  
 27. The twenty-seventh group of symbols represents the twenty-seventh generation (F26).  
 28. The twenty-eighth group of symbols represents the twenty-eighth generation (F27).  
 29. The twenty-ninth group of symbols represents the twenty-ninth generation (F28).  
 30. The thirtieth group of symbols represents the thirtieth generation (F29).  
 31. The thirty-first group of symbols represents the thirty-first generation (F30).  
 32. The thirty-second group of symbols represents the thirty-second generation (F31).  
 33. The thirty-third group of symbols represents the thirty-third generation (F32).  
 34. The thirty-fourth group of symbols represents the thirty-fourth generation (F33).  
 35. The thirty-fifth group of symbols represents the thirty-fifth generation (F34).  
 36. The thirty-sixth group of symbols represents the thirty-sixth generation (F35).  
 37. The thirty-seventh group of symbols represents the thirty-seventh generation (F36).  
 38. The thirty-eighth group of symbols represents the thirty-eighth generation (F37).  
 39. The thirty-ninth group of symbols represents the thirty-ninth generation (F38).  
 40. The fortieth group of symbols represents the fortieth generation (F39).  
 41. The forty-first group of symbols represents the forty-first generation (F40).  
 42. The forty-second group of symbols represents the forty-second generation (F41).  
 43. The forty-third group of symbols represents the forty-third generation (F42).  
 44. The forty-fourth group of symbols represents the forty-fourth generation (F43).  
 45. The forty-fifth group of symbols represents the forty-fifth generation (F44).  
 46. The forty-sixth group of symbols represents the forty-sixth generation (F45).  
 47. The forty-seventh group of symbols represents the forty-seventh generation (F46).  
 48. The forty-eighth group of symbols represents the forty-eighth generation (F47).  
 49. The forty-ninth group of symbols represents the forty-ninth generation (F48).  
 50. The fiftieth group of symbols represents the fiftieth generation (F49).  
 51. The fifty-first group of symbols represents the fifty-first generation (F50).  
 52. The fifty-second group of symbols represents the fifty-second generation (F51).  
 53. The fifty-third group of symbols represents the fifty-third generation (F52).  
 54. The fifty-fourth group of symbols represents the fifty-fourth generation (F53).  
 55. The fifty-fifth group of symbols represents the fifty-fifth generation (F54).  
 56. The fifty-sixth group of symbols represents the fifty-sixth generation (F55).  
 57. The fifty-seventh group of symbols represents the fifty-seventh generation (F56).  
 58. The fifty-eighth group of symbols represents the fifty-eighth generation (F57).  
 59. The fifty-ninth group of symbols represents the fifty-ninth generation (F58).  
 60. The sixtieth group of symbols represents the sixtieth generation (F59).  
 61. The sixty-first group of symbols represents the sixty-first generation (F60).  
 62. The sixty-second group of symbols represents the sixty-second generation (F61).  
 63. The sixty-third group of symbols represents the sixty-third generation (F62).  
 64. The sixty-fourth group of symbols represents the sixty-fourth generation (F63).  
 65. The sixty-fifth group of symbols represents the sixty-fifth generation (F64).  
 66. The sixty-sixth group of symbols represents the sixty-sixth generation (F65).  
 67. The sixty-seventh group of symbols represents the sixty-seventh generation (F66).  
 68. The sixty-eighth group of symbols represents the sixty-eighth generation (F67).  
 69. The sixty-ninth group of symbols represents the sixty-ninth generation (F68).  
 70. The seventieth group of symbols represents the seventieth generation (F69).  
 71. The seventy-first group of symbols represents the seventy-first generation (F70).  
 72. The seventy-second group of symbols represents the seventy-second generation (F71).  
 73. The seventy-third group of symbols represents the seventy-third generation (F72).  
 74. The seventy-fourth group of symbols represents the seventy-fourth generation (F73).  
 75. The seventy-fifth group of symbols represents the seventy-fifth generation (F74).  
 76. The seventy-sixth group of symbols represents the seventy-sixth generation (F75).  
 77. The seventy-seventh group of symbols represents the seventy-seventh generation (F76).  
 78. The seventy-eighth group of symbols represents the seventy-eighth generation (F77).  
 79. The seventy-ninth group of symbols represents the seventy-ninth generation (F78).  
 80. The eightieth group of symbols represents the eightieth generation (F79).  
 81. The eighty-first group of symbols represents the eighty-first generation (F80).  
 82. The eighty-second group of symbols represents the eighty-second generation (F81).  
 83. The eighty-third group of symbols represents the eighty-third generation (F82).  
 84. The eighty-fourth group of symbols represents the eighty-fourth generation (F83).  
 85. The eighty-fifth group of symbols represents the eighty-fifth generation (F84).  
 86. The eighty-sixth group of symbols represents the eighty-sixth generation (F85).  
 87. The eighty-seventh group of symbols represents the eighty-seventh generation (F86).  
 88. The eighty-eighth group of symbols represents the eighty-eighth generation (F87).  
 89. The eighty-ninth group of symbols represents the eighty-ninth generation (F88).  
 90. The ninetieth group of symbols represents the ninetieth generation (F89).  
 91. The ninety-first group of symbols represents the ninety-first generation (F90).  
 92. The ninety-second group of symbols represents the ninety-second generation (F91).  
 93. The ninety-third group of symbols represents the ninety-third generation (F92).  
 94. The ninety-fourth group of symbols represents the ninety-fourth generation (F93).  
 95. The ninety-fifth group of symbols represents the ninety-fifth generation (F94).  
 96. The ninety-sixth group of symbols represents the ninety-sixth generation (F95).  
 97. The ninety-seventh group of symbols represents the ninety-seventh generation (F96).  
 98. The ninety-eighth group of symbols represents the ninety-eighth generation (F97).  
 99. The ninety-ninth group of symbols represents the ninety-ninth generation (F98).  
 100. The hundredth group of symbols represents the hundredth generation (F99).

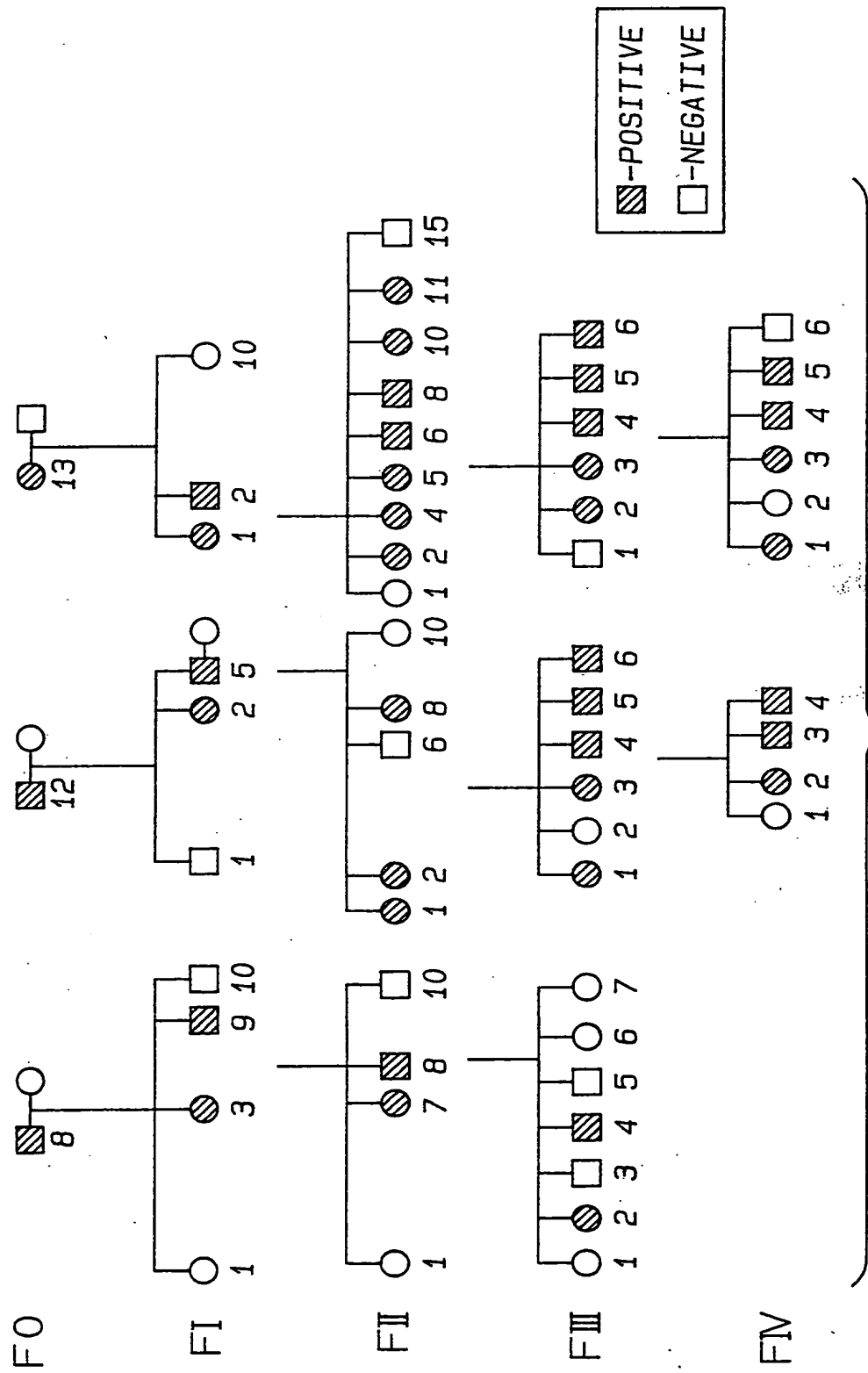


Fig-17

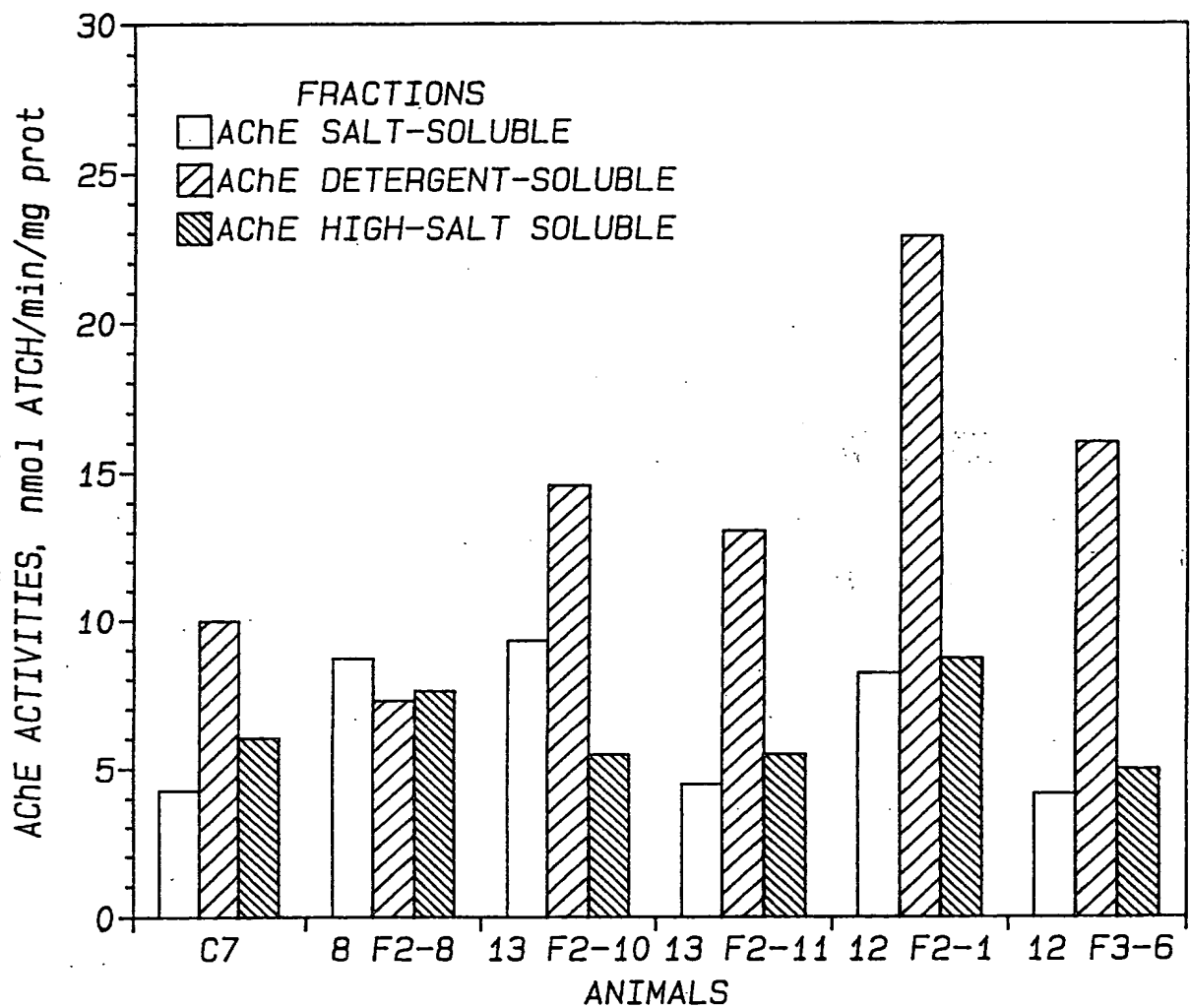
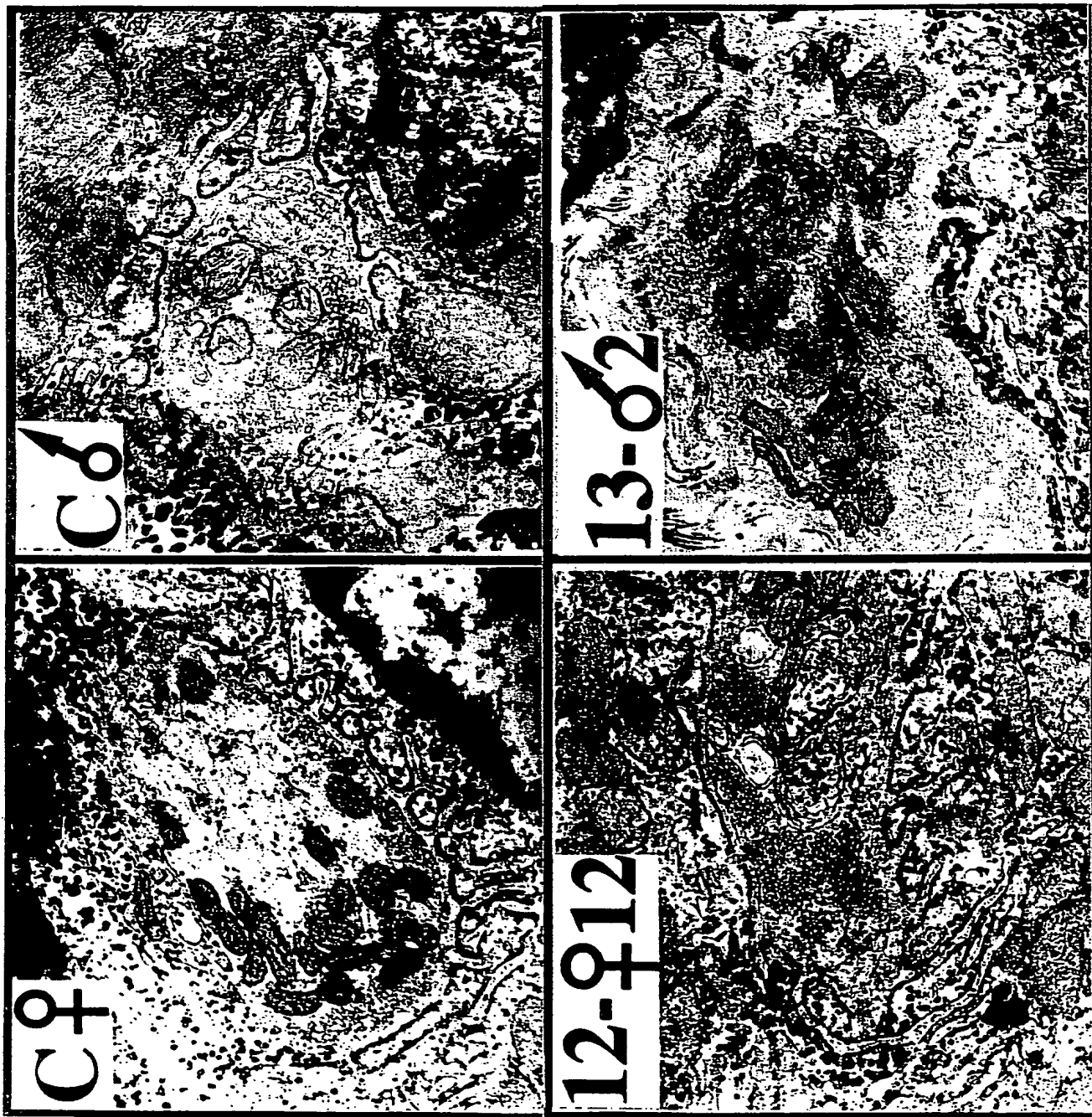


Fig-18



date	day	month	year	time	in	out	at	station
1941	May	1	1941	11	11	11	11	11
1941	May	2	1941	11	11	11	11	11
1941	May	3	1941	11	11	11	11	11
1941	May	4	1941	11	11	11	11	11
1941	May	5	1941	11	11	11	11	11
1941	May	6	1941	11	11	11	11	11
1941	May	7	1941	11	11	11	11	11
1941	May	8	1941	11	11	11	11	11
1941	May	9	1941	11	11	11	11	11
1941	May	10	1941	11	11	11	11	11
1941	May	11	1941	11	11	11	11	11
1941	May	12	1941	11	11	11	11	11
1941	May	13	1941	11	11	11	11	11
1941	May	14	1941	11	11	11	11	11
1941	May	15	1941	11	11	11	11	11
1941	May	16	1941	11	11	11	11	11
1941	May	17	1941	11	11	11	11	11
1941	May	18	1941	11	11	11	11	11
1941	May	19	1941	11	11	11	11	11
1941	May	20	1941	11	11	11	11	11
1941	May	21	1941	11	11	11	11	11
1941	May	22	1941	11	11	11	11	11
1941	May	23	1941	11	11	11	11	11
1941	May	24	1941	11	11	11	11	11
1941	May	25	1941	11	11	11	11	11
1941	May	26	1941	11	11	11	11	11
1941	May	27	1941	11	11	11	11	11
1941	May	28	1941	11	11	11	11	11
1941	May	29	1941	11	11	11	11	11
1941	May	30	1941	11	11	11	11	11
1941	May	31	1941	11	11	11	11	11



Fi 8-19

Fig-20

**T 13-2**

**C1**



Fig-21

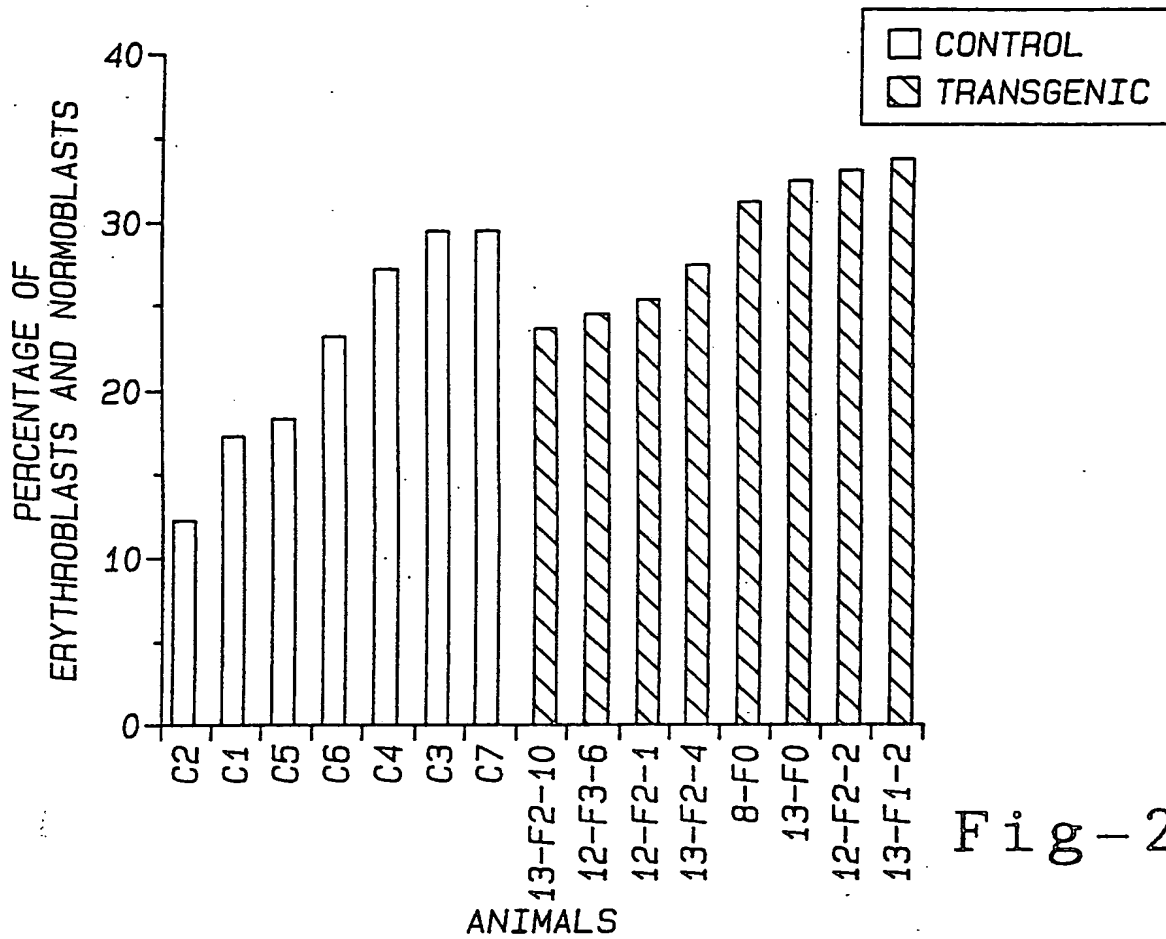


Fig-22a

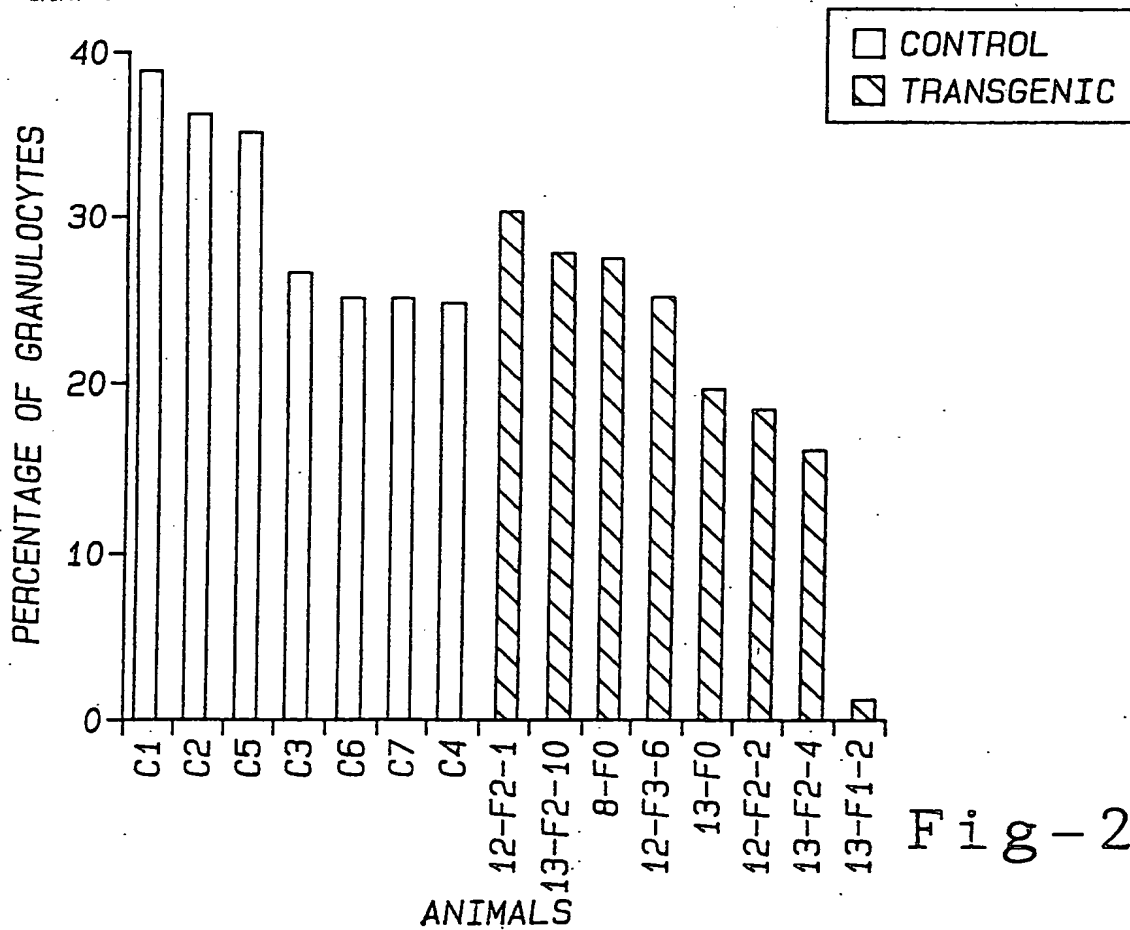


Fig-22b

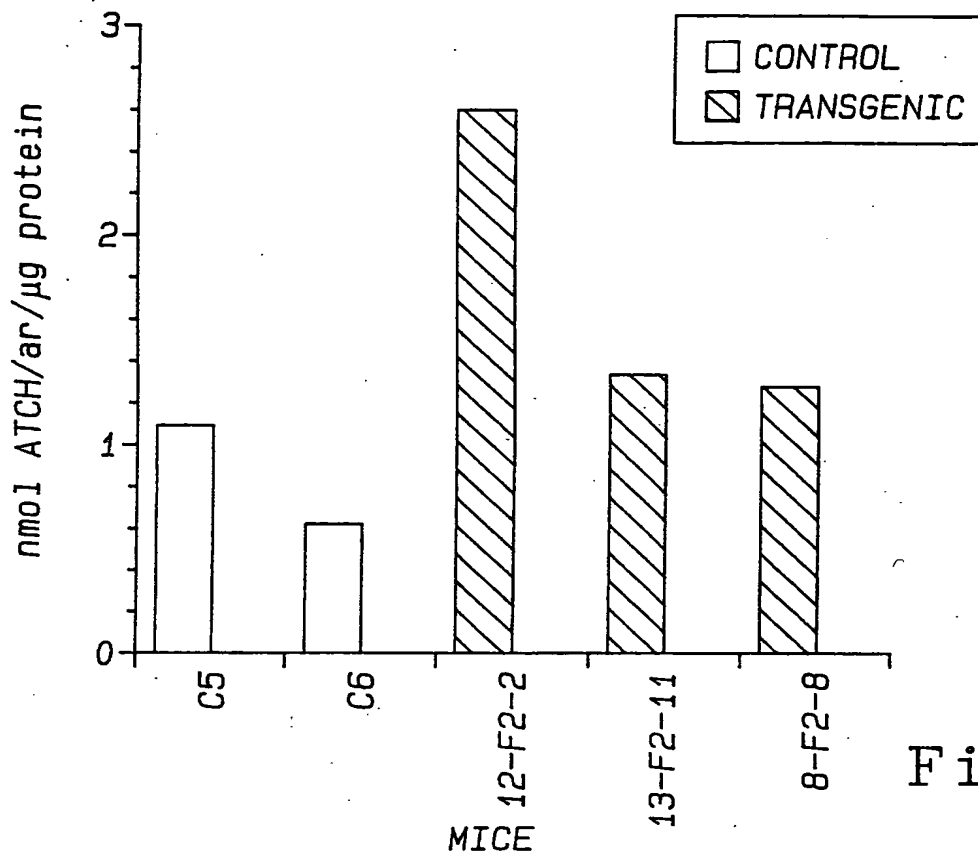


Fig-23

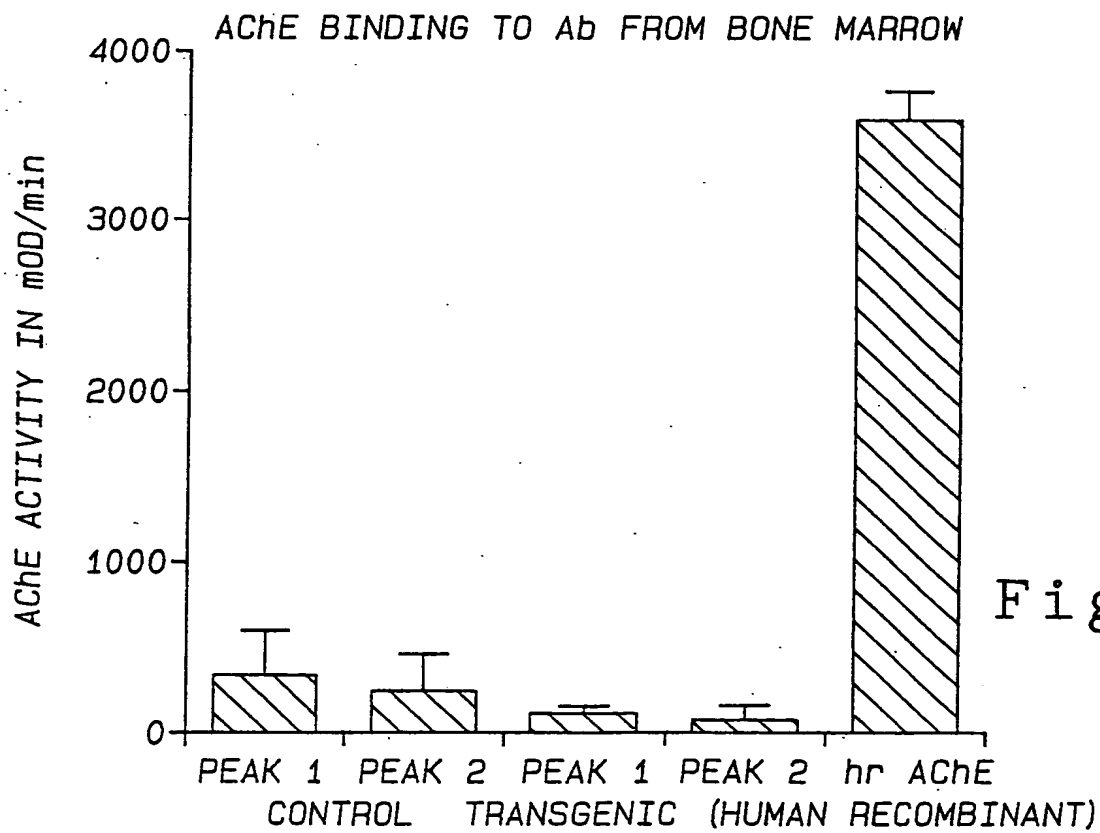


Fig-24

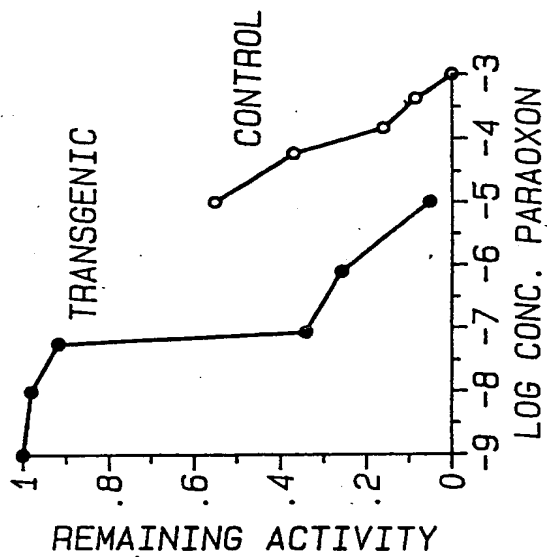
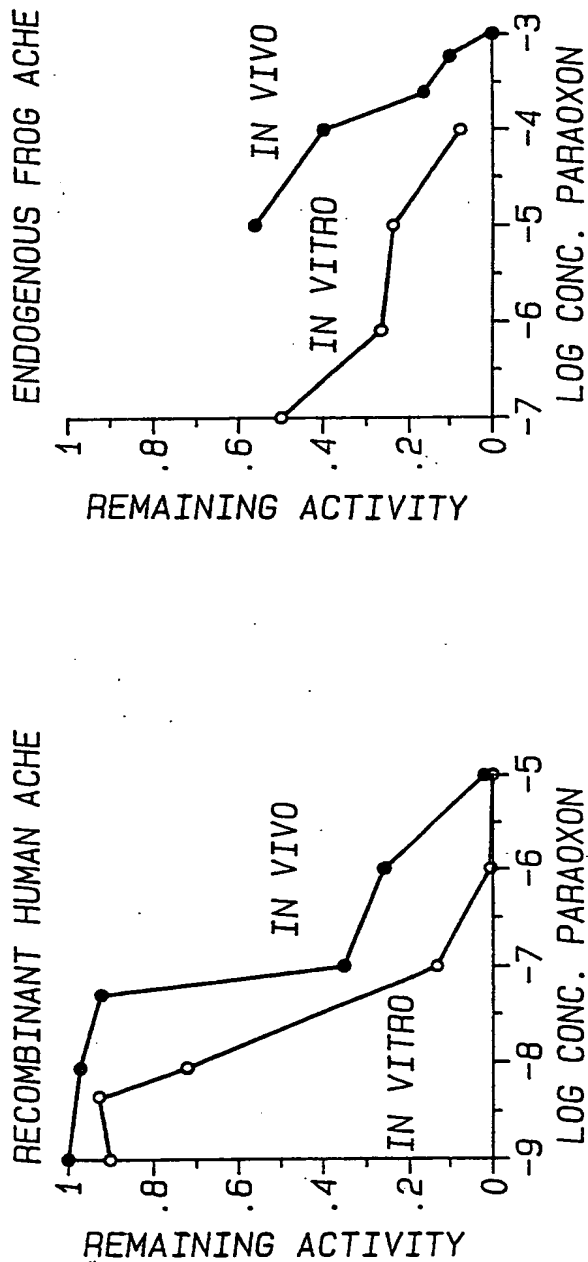


Fig-25

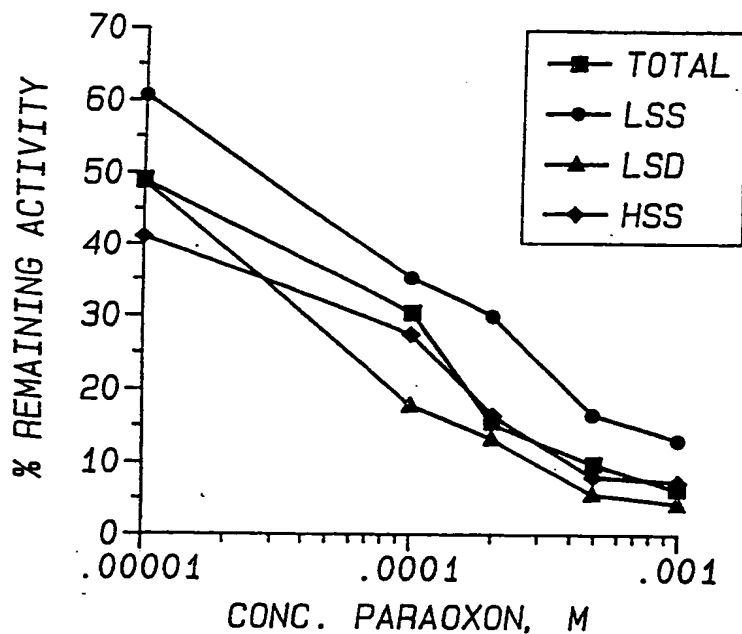


Fig-26

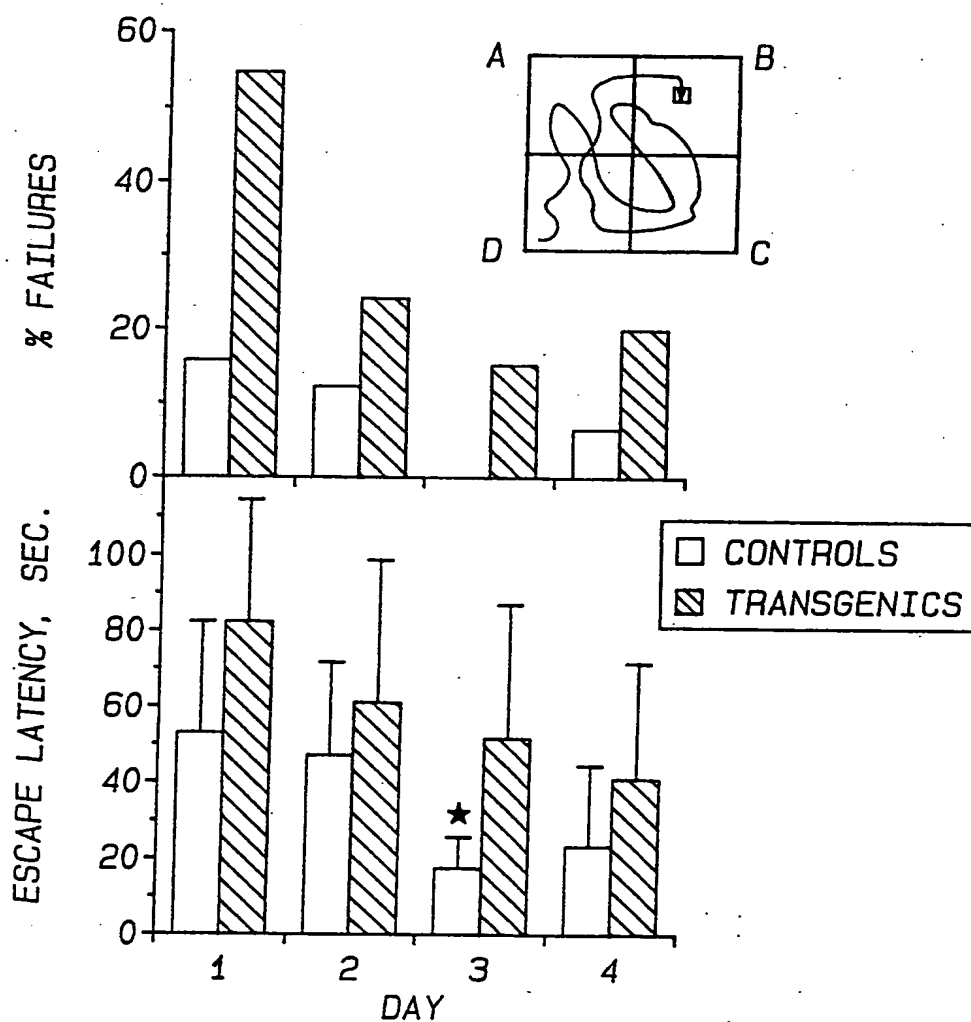


Fig-27

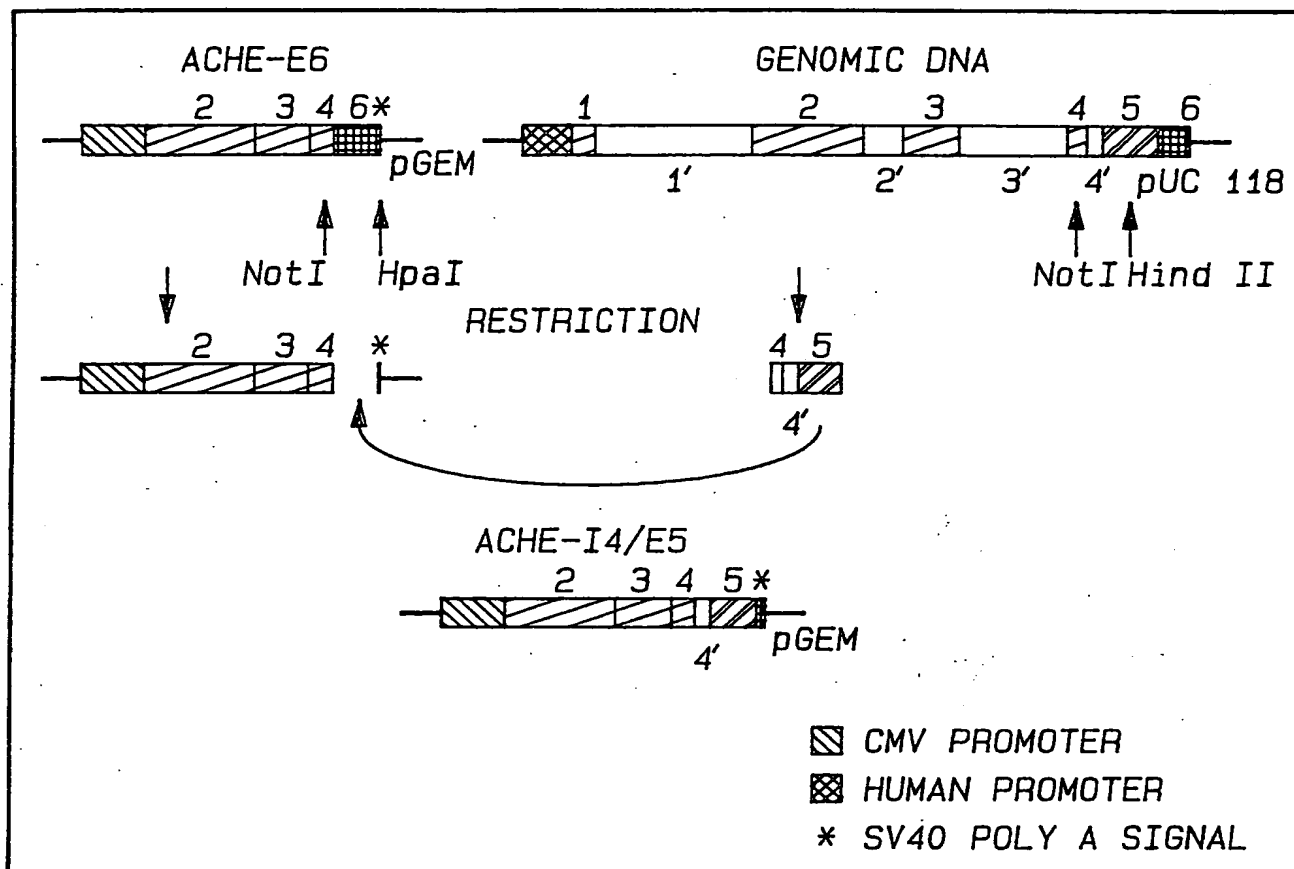


Fig-28



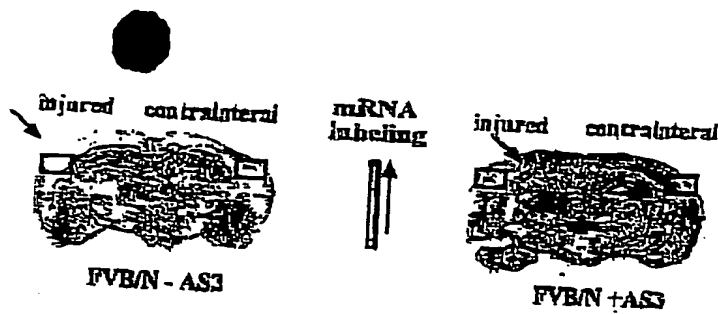


FIGURE 29 A

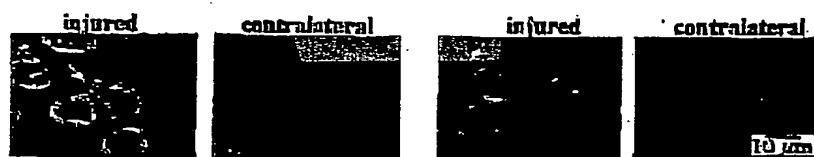


FIGURE 29 B

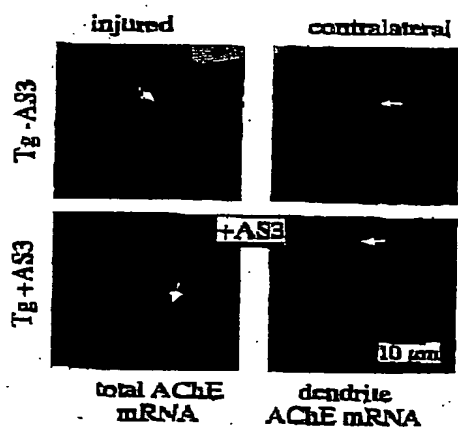


FIGURE 30 A

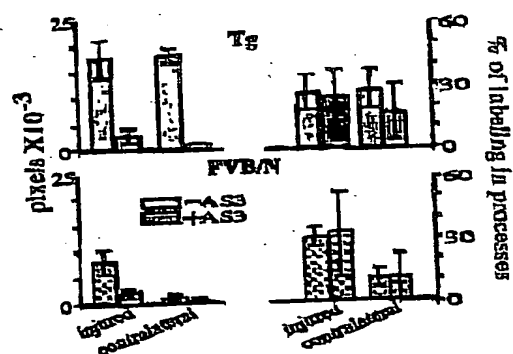


FIGURE 30 B

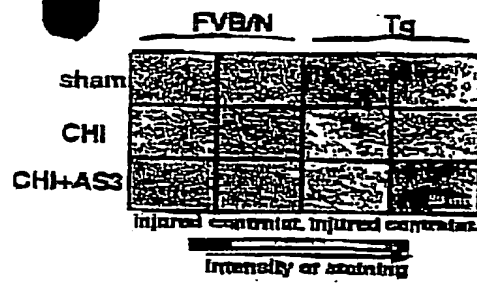


FIGURE 31 A

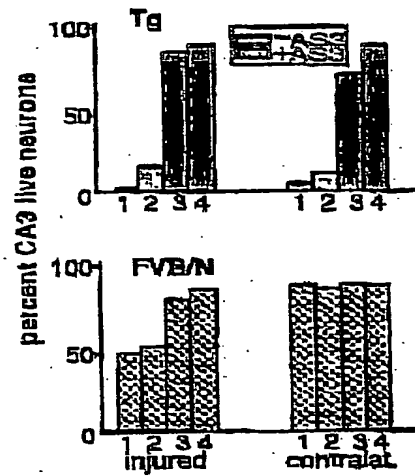
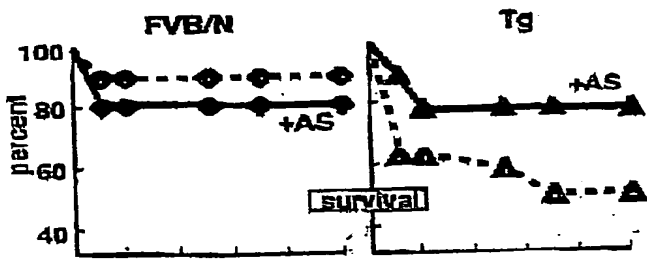
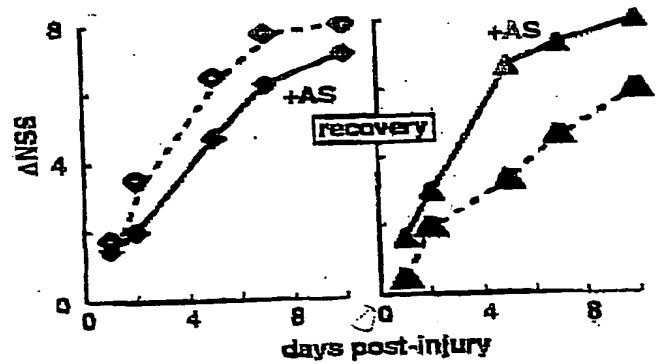


FIGURE 31 B



A

B



C

D

FIGURE 32

	Vector	Promoter	Variant coding sequence	Produced Protein
--	--------	----------	-------------------------	------------------

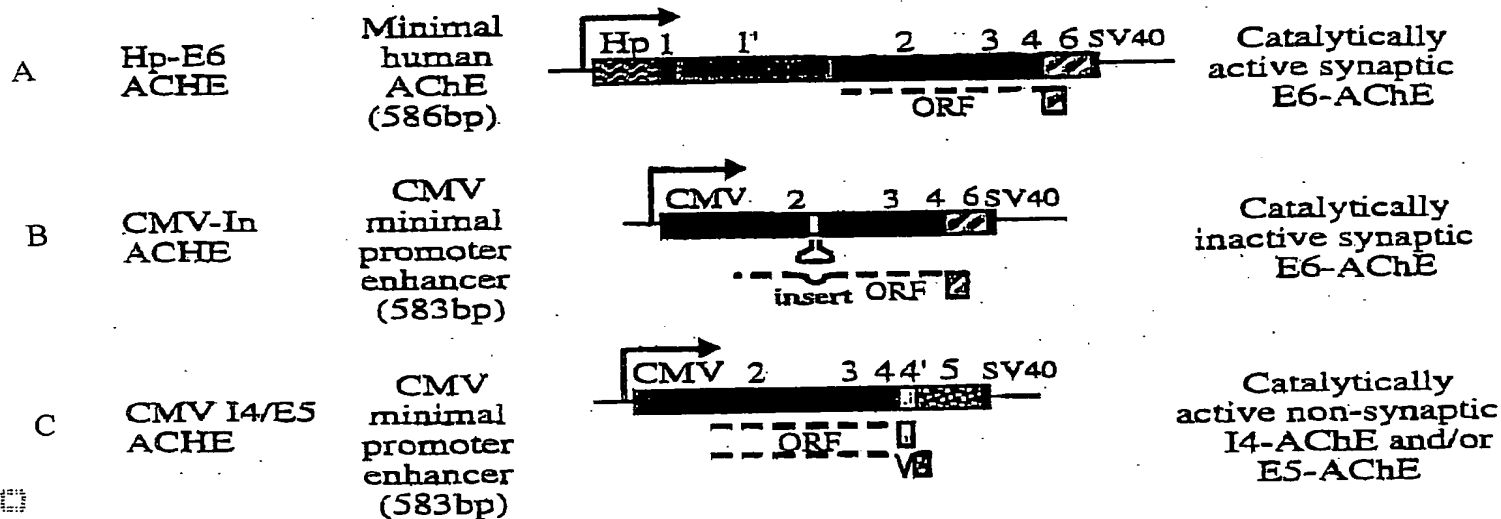


FIGURE 33

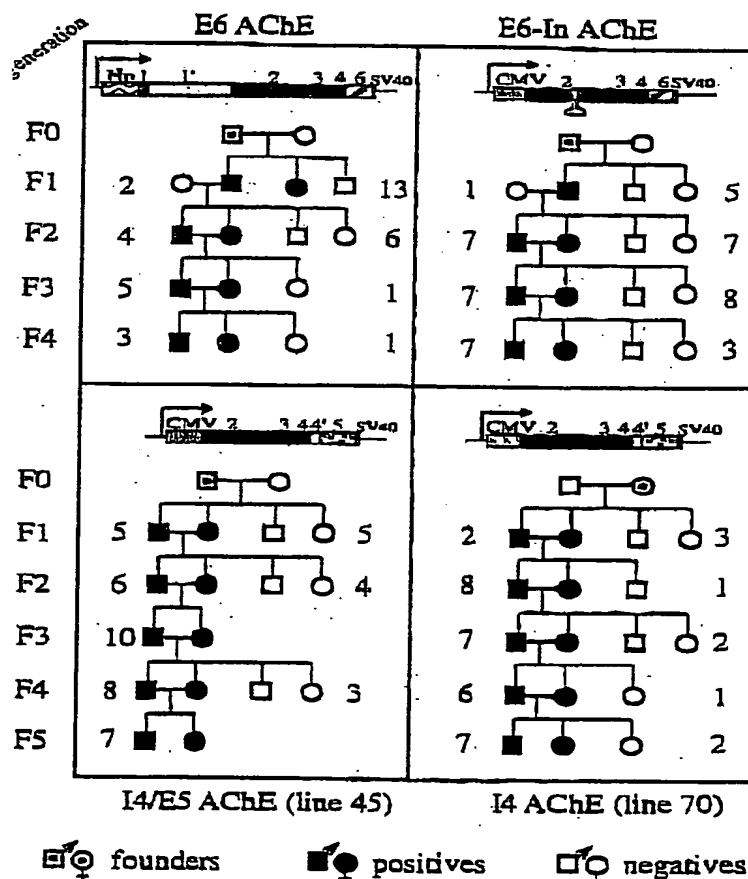


FIGURE 34

hAChE-I4/E5 transgenic

hAChE-E6 transgenic

n-transgenic



A

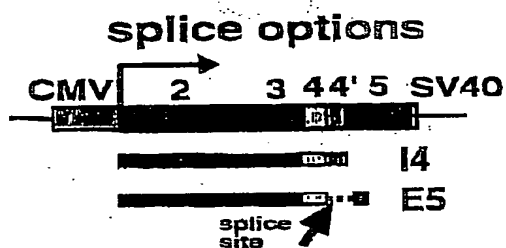


B



C

FIGURE 35



splice site

human AChE

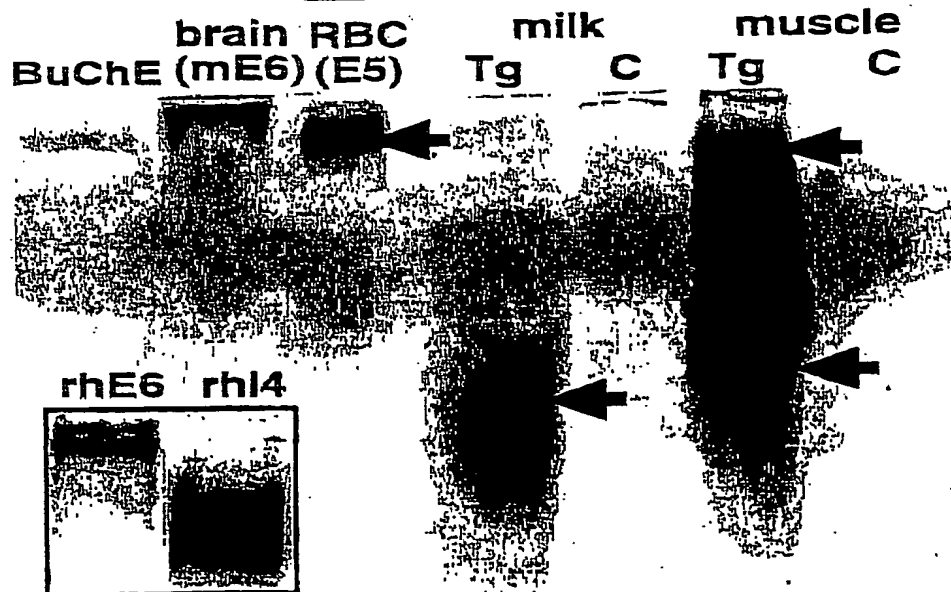


FIGURE 36

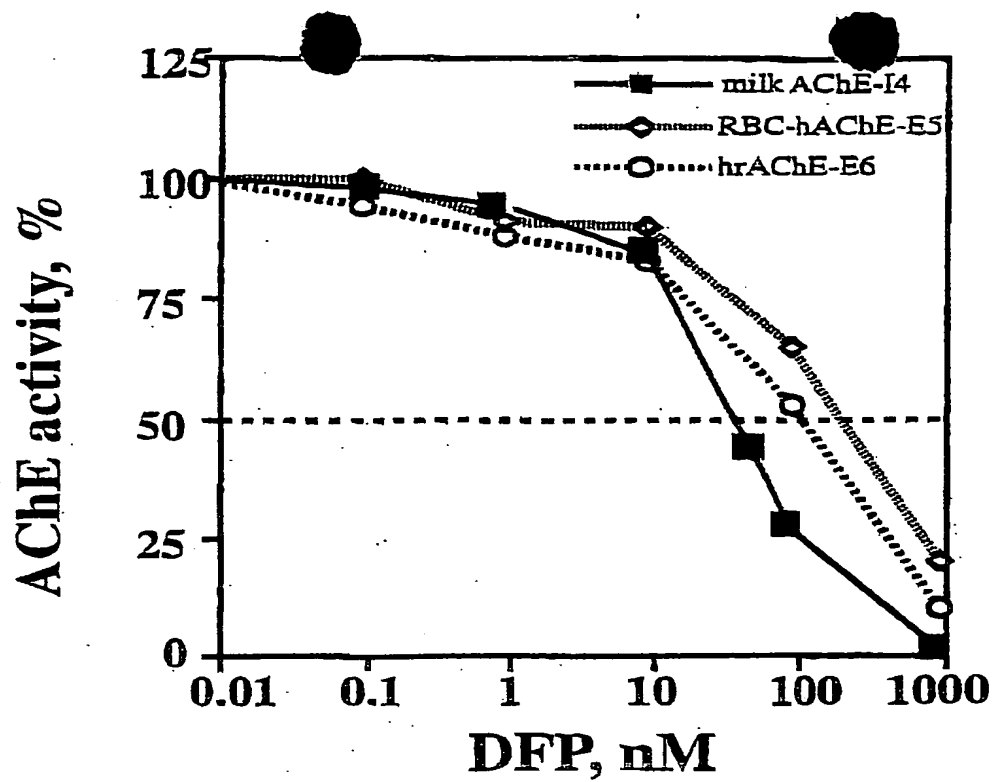


FIGURE 37

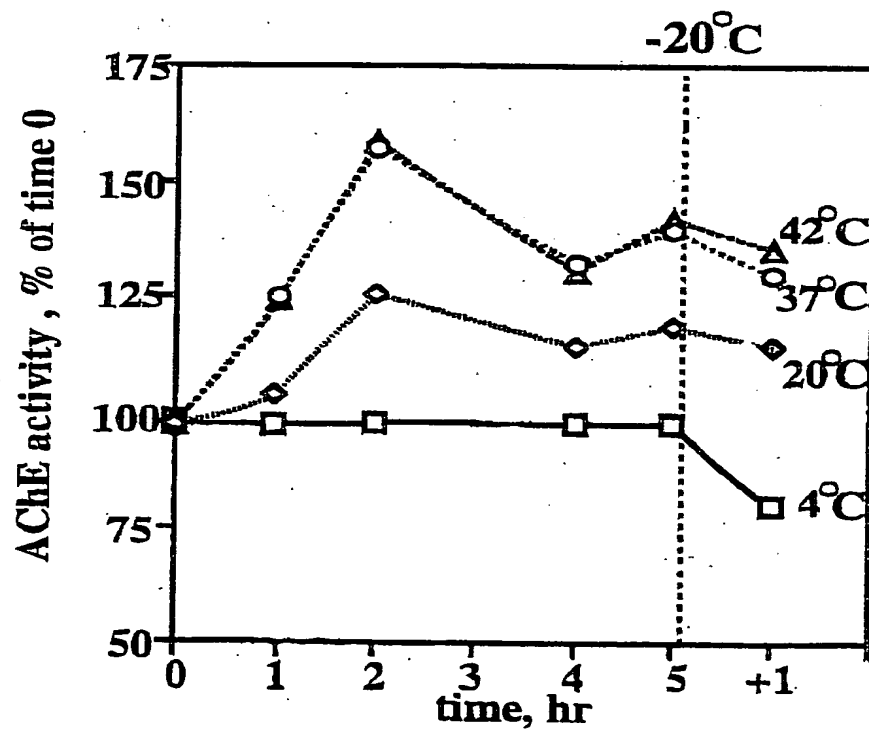


FIGURE 38